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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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AN INTERNATIONAL COMMISSION TO CONSIDER LAKE LEVELS.

The House Committee on Foreign Affairs has acted favorably on the joint resolution authorizing the president to invite Great Britain to join in the formation of an international commission, four from each government, to consider the diversion of waters along the boundary of United States and Canada. The inquiry is designed principally to ascertain the effect on the level of the Great Lakes caused by improvements at the Welland canal, Sault Ste. Marie canal and the Chicago drainage canal. The inquiry covers the entire lake region, including all the waters of the lakes and rivers whose waters flow by the River St. Lawrence to the Atlantic Ocean. The joint resolution has already passed the Senate.

THE GREAT LAKES' FISHERIES.

The census for 1900 of the Great Lakes' fisheries is expected to contain surprises in respect to the extension of the fisheries during the last ten years in the Great Lakes of Superior, Michigan, Huron, Erie and Ontario. From 1880 to 1890 the number of fishermen actually engaged in these waters increased 53 per cent. The capital invested during the same period increased 110 per cent. and the fish taken increased from 68,000,000 to 118,000,000 pounds, or 70 per cent. Lake Ontario was the only one to show a loss. In fact, the Great Lakes' fisheries are now the fisheries of the Great Lakes to the west of Buffalo, and Lake Ontario is no longer a factor in the matter.

Since 1890 the increase in the number of fishermen, in capital invested in these fisheries and in the amount of fish taken has shown a ratio even larger than prior to 1890, and it is for this reason that some important surprises are expected in the next national census. Very few persons have any clear idea of the wonderful productiveness in fish of the waters of the Great Lakes. An estimate based on the known production showed that in the decade terminating with the census of 1890 1,000,000,000 pounds of fish were taken, which yielded the fishermen \$25,000,000. In 1890 6,996 persons were engaged in the capture of fish in the Great Lakes. These employed 107 steamers, valued at \$350,000, and 3,876 vessels and boats, worth \$325,000. The apparatus used consisted of 3,800 pounds net and trap nets, the value of which was \$825,000; gill nets to the value of \$400,000; 176 seines and other apparatus. The capital invested in shore property directly connected with the fisheries was nearly \$1,000,000. These items give, as the total investment in fishing property, about \$3,000,000. The quantity of fish taken was 118,000,-

000 pounds, the value of which at wholesale was \$2,615,784, and at retail probably \$5,000,000.

One curious reason given to account for the increase of the lake fisheries is the advent, especially in the more western lakes, of many immigrants from the fishing and maritime countries of Europe, particularly Norway, Sweden, Germany, Denmark and Finland. The Scandinavians, as is well known, are excellent fishermen, and many of these Scandinavians and Germans, after coming to the United States, have taken up here the same avocations as they pursued in their own countries, with the result that there is near each of the Great Lakes what may be called a fisherman population, just as the enormous fisheries of Canada are largely in the control of the descendants of two classes of emigrants—the Bretons from France and the Scotch and north of Ireland fisherman. In similar fashion much of the extensive fishery business of the Pacific slope is in the hands of Scandinavian or Portuguese fishermen, and New Bedford, Mass., still the headquarters of what remains of the once-celebrated and lucrative whale fisheries, has still a considerable local Portuguese population devoted to the business of whaling. Two-thirds of the catch of the fisheries of the Great Lakes is made up of four kinds of fish—herring, trout, whitefish, and sturgeon. The catch of lake trout, which is one of the most important and highly esteemed fishes of the Great Lakes, increased from 4,397,031 pounds, or 65 per cent., from 1880 to 1890. It is most abundant in Lake Michigan. Next to herring, whitefish is the most abundant and most profitable catch in the Great Lakes.

CHAIR OF MARINE ENGINEERING.

At the next meeting of the board of regents of the University of Michigan there will be appointed a professor of marine engineering. Although the course has been authorized for a year, Prof. Cooley has been until now unable to find a suitable man to take charge of the work. But he made the announcement to his class Thursday that he had found two available men, one of whom will be chosen. One is a prominent naval and marine architect, well known on the eastern seaboard, and the other is at present an assistant professor of naval architecture at the University of Glasgow, Scotland.

The course which will be offered at Michigan will comprise a year and a half of work, and will consist of two branches—marine engineering and naval architecture. Prof. Cooley said that there is a great future for the university in marine work. He said he thought the United States is soon to become the greatest shipbuilding nation from purely natural causes. The Great Lakes will be an important factor in the development, and Lake Michigan will be the greatest producing section.

TO REFUND INSPECTION FEES.

United States vessel owners charged inspection fees by the Canadian steamboat inspectors last year for obtaining Dominion licenses for their boats, made such a strong representation to the United States government that at last the Canadian government was communicated with in regard to the matter, and the announcement was made that all United States vessel owners who paid fees could have them refunded on making proper application.

M. W. Twitchell, United States consul at Kingston, Ont., wrote the Department of State "that vessel owners had not taken advantage of the proffered refunding, probably from lack of knowledge that it would be returned."

Collectors of Customs have received a letter from Assistant Secretary of the Treasury Spaulding advising them to inform vessel-owners and masters that by making application to the proper Canadian authorities they can get back their money paid for inspection fees in the Dominion of Canada.

MINORITY REPORT ON SUBSIDY BILL.

The minority report on the shipping subsidy bill, opposing that measure, has been filed in the House of Representatives by the majority of the members of the Democratic minority of the committee on merchant marine and fisheries. In the main, it is an argument against government subsidies, and asserts that most of the proposed \$9,000,000 subsidy will go to a few favored concerns without building up American shipping in general or encouraging American exports.

The report quotes a recent utterance of President McKinley on the remarkable increase of our shipbuilding, and says in part: "Our foreign trade, then, is increasing with wonderful rapidity and our shipbuilding industry is remarkably prosperous without subsidy. Why, then, should the whole country be taxed to provide gratuities for industries which are now prosperous, and which have every prospect of continuing to be more prosperous?"

"By this bill, which professes to be intended to increase the exportation of American produce, the government is asked to pay to the stockholders of a single steamship line \$1,500,000 a year for carrying abroad in its four first-class passenger ships, not American products, but American tourists, who can afford to travel and spend their money in Europe. That is, the government is asked to pay, not for the exportation of American produce, but for the exportation of American customers."

In conclusion, the objections are summed up as follows:

"First—The objects professed in the title are entirely forgotten in the body of the bill.

"Second—It is reasonably certain that most of the subsidy would go to lines already established and prosperous.

"Third—Under this bill the ordinary freight steamers, which carry 80 or 90 per cent. of our agricultural exports, will get but a fraction of the amount of subsidy which the passenger steamers would receive, although the latter carry less than 10 per cent. of our agricultural exports.

"Fourth—Under this bill a ship can run practically in ballast and draw subsidy. We believe that when freight is not promptly offered it will pay a certain class of ships to run empty rather than to wait for cargo.

"Fifth—This bill would tax all our citizens to provide extra profits for a favored few in this industry.

"Sixth—The professions of this bill are insincere and its principles are unsound. We believe that the best interests of this nation do not demand the passage of this or of any similar bill."

A BETTER OUTLOOK.

Dun's weekly review says: With wholesome promptness the country is recovering from the embarrassment of unnaturally high prices. The proportion of works and of hands unemployed is as yet quite small, and the volume of business transacted, though less than last year in New England and in the Middle State cities, is larger than ever before at 54 out of 63 cities in the entire region west of Pennsylvania and south of the Potomac.

Production, stimulated by higher prices, rises above consumption retarded by them. The weekly output of pig iron May 1st was 293,850 tons against 289,482 last April 1st, while unsold stocks not held by the great steel makers increased 44,645 tons. Bessemer pig at Philadelphia and Lehigh Valley No. 1 here are quoted at \$22 per ton and market wire has been reduced in correspondence with barbed and plain.

Considerable increase of business is reported resulting from recent reductions, but demands for higher wages and also for closing of some iron works two months in the year, whether there is business or not, cause some hesitation regarding future contracts.

The opening of Philippine ports has also reduced the price of hemp from 15 cents last November to 11 cents.



DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Grain chartering has been very slack this week, with a decline of another $\frac{1}{4}$ cent, as $2\frac{1}{2}$ cents is now offered on wheat, with vessels holding at last week's reduced rate of $2\frac{3}{4}$ cents.

Alexander Sinclair & Co. have purchased the steamer J. C. Suit and will use her in wrecking operations on Lake Superior. They recently bought the McMorran outfit of pumps and diving rigs.

Hingston & Wood's dredge No. 10 started work on the Portage Lake ship canal, and after filling two scows, was run into by the barge Dayton towed by the J. P. Donaldson, breaking the two forward anchors on the dredge and damaging some planking on the barge.

The business of the Philadelphia & Reading has increased in the past seven years from 37,000 tons coal to 235,000 tons. Among other extensive improvements, a winding track overhead system for distributing coal is being put in which is said to be the finest on the lakes. One hundred and twenty-five men are employed at the plant.

Coal is shipped out and consumed as fast as it arrives and, although there is nothing like a scarcity, nor has there been, yet there is about 15,000 tons less on the docks this year than there was last. It is estimated that 28,000 tons would cover the stock piles on May 1, and with regular receipts from this on, a fairly liberal supply at moderate prices is assured.

Some large sales of timber land were carried through last week. Bardon & Pleas of Ashland sold 21,000,000 feet of standing pine along the international waters, for \$42,000. Moore Bros., of Itasca county sold to the American Timber Brokers' Association some 25,000,000 feet in that county for \$73,000. The biggest deal of all that has been figured on for some time is a tract of 580,000,000 feet, belonging to Cook & Turrish and others and on which an option has been given William O'Brien and others of St. Paul for \$1,500,000. It is stated that if the estimates hold the sale will be closed at the expiration of the option.

A hard fight is going on between the Lake Superior & Lake Michigan Transportation Co. and the Duluth, South Shore & Atlantic railroad. The lake line has established a rate of 3 cents a hundred, which is ruinous even for the boats, and impossible for the railroad to meet. The lake line denies that it intends to put up the rate again, although there are rumors of the opposing forces coming to an agreement. There has been keen competition and a slashing of rates going on for some time past, the railroad being quite as aggressive as the steamboat line, but it is thought that this last minimum rate will "choke the luff" of the railroad company.

The government work in the Superior-Duluth harbor is now well under way. The aim for the summer is to finish the work in district No. 1, that is to complete the 22-foot channel 400 feet wide from the natural entry up Superior Bay to the Superior-Duluth bridge, and to make the channel 500 feet wide west of the bridge to the Ohio coal docks in Duluth. The channel in Allouez bay is already 250 feet wide up as far as the Omaha flour dock, and not much will be done there this year. The south channel from St. Louis Bay from the N. S. bridge to St. Paul & Duluth bridge will probably be widened to 200 feet this season. There is already a 22-foot channel along the St. Louis river on the Duluth side up as far as West Duluth, and on the Superior side up as far as the Y. & L. coal dock. The channel will be extended this year nearly up to Spirit Lake.

A notice of appeal in the admiralty case of the White Line Towing Co. vs. the steamer Arthur Orr, to the United States Court of Appeals, has been entered from the decree of Judge Lochren. The decree gave the libelants \$10,500 and the amount of the appeal bond was \$13,000. The White Line filed its libel in the United States district court that it be awarded salvage against the steamship and cargo. Subsequently the British Marine Insurance Company made claim to the cargo, and having given bond for the release of the cargo, filed its answer praying that such libel be dismissed. The case was tried before Judge Lochren and on March 5 the court pronounced in favor of the libellant, the White Line Towing Company, and on April 23 rendered its decree granting the company salvage mentioned in the foregoing, together with costs, amounting in all to \$11,076.24. The libelants insisted that the final decree was erroneous in that it decrees the payment of the libellant's claim and awards any sum whatever as damages to the libellant and therefore does not dismiss the libel. For this reason the case has been brought to the higher court, the next session of which will be held in St. Louis in September.

DETROIT.

Special Correspondence to The Marine Record.

The passenger steamer Sterling, running on the St. Clair river, has had her name changed to the Mary.

Capt. Rogers, inspector of the ninth and tenth life saving districts, with headquarters at Detroit, is on an inspection tour of the life saving stations in the ninth district.

Charles Hayes, a sailor belonging to the steamer China, died at the Detroit Marine Hospital, Wednesday night, of tuberculosis, after an illness of a little more than a week.

Charles Norton, the well-known grain shipper and broker, chartered the steamer Saturn and consort this week at $4\frac{1}{2}$ cents on Cedar ties from Georgian Bay to St. Clair River.

A favorable report was made on Senator McMillan's amendment to the sundry civil bill for the construction of a revenue cutter of the third class for duty in St. Mary's river, to cost \$75,000.

Mr. Wm. Woollatt has been appointed general manager of the Lake Erie & Detroit River Railway Co. (F. H. Walker, president), with offices at Walkerville. The appointment became effective May 1st.

John J. Hill, who was superintendent of the Morley Ship Building Co., of Marine City, has severed his connection with that firm and will leave shortly for the Pacific coast, where he will be engaged in the shipbuilding business.

There are some 4,000 vessels on the lakes, and at least 3,000 of these at one time or another go through the Detroit river and use the marine postoffice. A fair average of the number of men on each boat is seven, a total of about 21,000 men.

Messrs. Shaw & Cady, admiralty lawyers, have removed their offices from the Home Bank Building to numbers 904, 905, 906 and 907 Union Trust Building. The principals of the firm are John C. Shaw, Esq. and Wm. B. Cady, Esq., with whom are associated Messrs. Herbert K. Oakes and Geo. Wm. Cottrell.

The elegant and speedy passenger steamer Tashmoo, owned by the White Star Line, has had a preliminary trial trip. Her builders, the Detroit Ship Building Co., as also her owners, are well pleased with her so far, but there is considerable finishing work to do to her yet before she is fully ready for service.

The Pittsburgh Steamship Co. (Carnegie) announces the launching of the first steamer of its fleet, the Harvard, on Saturday, May 19, at 3 p. m., at the Wyandotte yard of the Detroit Ship Building Co., Wyandotte, Mich. Boat No. 43, now building at the Globe yards, Cleveland, for the same company, is to be named the Rensselaer after the well-known polytechnic school of Troy, N. Y.

There was a meeting of lumber dealers at the Russell House on Thursday last and it was the consensus of opinion that there would be no decline in the prices of lumber this summer. Another of the points discussed was the freight rates, and it was the opinion that Detroit dealers should have a shilling better rate per M feet on lake cargoes than the Ohio points, because of the shorter trip.

At the meeting of the Port Huron Common Council, on Monday evening last, Ald. W. G. Jenks stated, that in his opinion, no more steel boats would be built at the yards on Black river after the present one was completed. It is probable that a ship yard will be established on St. Clair river. It will likely be September before the new steel steamer now being built at the yards of the Jenks Ship Building Co. will be launched.

At Iron River, Mich., several million feet of hardwood, belonging to the Buckeye Stave Co., burned up at the landing, causing a loss of \$200,000. The fire was started by the forest fires. The Lillie Lumber Co., of Talbot, has lost 100,000 feet of hemlock logs on skids near Carney. The damage to standing and cut timber in the upper peninsula of Michigan through the fires of the past three weeks, amounts to nearly \$1,000,000.

It is interesting to note that the work of improving the Detroit river was begun in 1874. At that time the cost of excavating a large portion of the channel was estimated on the basis of \$25 a cubic yard. None of the contracts have ever been let at any such cost per yard and the above bids are all below \$5. Nevertheless the actual work of improving the river will cost the whole of the original \$25 per yard estimate, and much more. The original estimate, however, was for a 300-foot channel, 18 feet deep, and now there is being completed a 600-foot channel, 21 feet deep.

A dispatch from Washington, says: The rivers and harbors committee has decided to report to the House an emergency bill and put it on its passage at once. Congressman Bishop has inserted in the measure an item for the survey of Muskegon harbor, with the view of increasing the depth to twenty feet and making a uniform width. There will be provision for the survey of the St. Clair ship canal, with the view of increasing the width to double present capacity, or building a second canal parallel with the present channel and of equal width, so that upbound vessels may take one route and downbound craft the other, thus obviating the possibility of collision. There will be provision for continued improvement of the Detroit river at the Lime Kilns, and for the improvement of old St. George channel in the "Soo" river. There will also probably be included a few estimates for Lake Erie improvements. The bill has been prepared after repeated consultations with Speaker Henderson, who until to-day has stood out against allowing the bill to be put through.

CHICAGO.

Special Correspondence to the Marine Record.

The Hines Lumber Co. intend to keep a supply of bituminous coal at their yards to supply their steamers with fuel.

A large amount of business has been done here during the past week in grain charters on the basis of $1\frac{3}{4}$ cents on corn to Buffalo.

John F. Hodell, for many years an employe of the O. S. Richardson Fueling Co., now holds the position of foreman at the Youghiogeny and Lehigh Fueling Co.'s south side dock. Jack is well liked and has a host of friends among the marine fraternity.

The steel steamer Robert W. E. Bunsen was successfully launched at the Chicago Ship Building Co.'s shipyard at South Chicago, Tuesday afternoon. She was built for the Bessemer Steamship Co. Her dimensions are 461 feet over all, 50 feet beam, 29 feet molded depth. She will have a carrying capacity of 7,500 tons on 18 foot draft.

A remarkable record for the rapid handling of cargoes was made at South Chicago on Saturday last. The steamer Robert Mills, with 2,600 tons of coal, reached South Chicago in the morning and began unloading at the new Lehigh Valley dock at 7 o'clock. At 8 o'clock p. m. the Mills sailed with 85,000 bushels of corn. Such rapid handling of cargo can not be exceeded in any port in the world.

The Western Transit Line steamer Vanderbilt collided with the steamer O. E. Parks lying at the Rock Island dock at Tenth street unloading ties Monday afternoon. The Vanderbilt was endeavoring to navigate the river without the services of a tug, but the current in the river rendered her unmanageable and caused the accident. The Vanderbilt had her bows stove in above the water line and the Parks received some damage aft and had her mizzen mast carried away.

At Miller Brothers shipyard the steamer A. McVittie was in dock for bottom calking and new stern bearing, tug Kate Williams to have wheel fastened, the steamer I. M. Weston and schooner John Miner for bottom calking, barge D. R. Martin for piece of new keel and bottom calking, steamer M. F. Butters for some bottom calking, fire boat Geyser for repairs to stern bearing, schooner Ralph Campbell for calking butts and searching bottom, steamer Nellie B. for repairs to her wheel.

The Chicago Boiler Cleaner Co., which have had offices in the Monadnock block for several years, have leased and occupied a store at 321 Dearborn street. The new quarters are much larger, the increase of space being demanded by improved business. The company sell besides the Chicago boiler cleaner, the Famous oil filter, and a line of flue scrapers. They are agents for the White & Middleton gas engine and for the Tweedale water purifier system for preventing the formation of scale in boilers. G. W. Atterbury is manager of the company.

The steamer Fred Pabst when going down the river Saturday evening picked up a log in her wheel and three blades were broken off. She was towed to one of the Illinois Central elevators and after considerable of her cargo of corn had been unloaded she was towed to the Chicago Ship Building Co.'s shipyard at South Chicago, to be placed in dry dock to receive a new Sheriff's wheel, which was sent from Milwaukee on the tug W. H. Meyer. The Pabst will come back here and reload the portion of her cargo taken out at the Central elevator.

The resolution made by the Licensed Tugmen's Association here and sent to the vessel and dredging tug companies at this port, asking for a raise of \$10 per month to tug engineers and for certain hours to lay up, has been granted by the tug companies and everything is working very satisfactorily between the owners and the members of the Association. The Licensed Tugmen's Association, Lodge 2, Chicago, now have their headquarters at 240 South Water street, where they have fitted up and furnished a large room on the second floor, where the members can assemble at all hours.

Capt. John M. Twichell, aged 54 years, died Thursday night, May 10th, at his residence 3811 Michigan avenue, from an illness which commenced just before the close of navigation last year. The deceased was in the employ of the L. M. & L. S. Transportation Co. twenty years and master of the steamer City of Traverse eight years, and would have commanded her again this season. He was a thorough sailor and was held in high esteem by his employers and his many friends and much regret is felt at his passing away. He leaves a widow and two sons. Funeral services were held at his former residence Saturday and his body was taken to Manitowoc, where he formerly lived, for burial.

Thomas O'Neil, aged 38 years, single, died Monday morning, April 30th, at the residence of his mother, 315 Waubesa avenue. He was a marine engineer and a member of the Licensed Tugmen's Association, No. 2, Chicago, also of the Knights of Pythias. One hour after Capt. C. McCauley, chairman of the funeral committee of the L. T. A. was notified of the death, one hundred dollars was obtained from treasurer Thos. Hunter and handed to the deceased's mother. Twenty-five dollars was also expended for floral tributes emblematic of the Association and representing a steering wheel and propeller wheel, and twenty-five dollars for carriages for the members to attend the funeral of the deceased. The L. T. A. took full charge of the funeral and many members were in attendance.

BUFFALO.

Special Correspondence to The Marine Record.

By order of the superintendent, the Welland canal will be kept open Sundays until 6 a. m. and after 9 p. m. this season. During the intervening hours the gates will remain closed.

Hard coal shippers state that the rate to western points by rail is close enough to lake rates to speedily drive the coal trade to the railways if there is any trouble among the workmen at the docks.

Hingston & Wood have about two months' dredging work at Strawberry Island to complete the contract commenced last year. This work will be started as soon as the ice gets all fairly down the river.

Canal boatmen report plenty of west-bound freight at paying rates, but they complain of the low rate of $2\frac{1}{2}$ cents for grain to the seaboard. They can get no higher rate, as the rate by rail is only 3 cents. A large fleet of canal boats is here now.

The six sailors from the foundered schooner Thomas L. Howland, sunk off Windmill Point, were given \$30 each from the funds of the seamen's union to refit themselves out with dunnage, as they saved nothing from the schooner when she went from under their feet.

About 72,000 tons anthracite coal were shipped last week, Chicago taking 26,000 tons. The average freight rates were: Chicago, 75 cents; Duluth, 50 cents; Milwaukee, 70 cents; Waukegan, 80 cents; Manitowoc, 70 cents; Toledo, 40 cents; Lake Linden, 55 cents; Gladstone, 50 cents; Green Bay, 75 cents.

The steamer John J. Hill, built by Morley, of Marine City, which has been trading on the Atlantic coast for some time, has returned to the lakes. She had what might be called a chequered career during her coast trading, although she was built primarily for that service. She is a small, handy wooden steamer, but evidently she didn't find her right place in the coast trade.

John M. Hennessey, assistant to T. W. Kennedy, superintendent for the Lake Carriers' Association in the grain handling at this port, resigned his position on Saturday. Mr. Hennessey desired to belong to the grain handlers' union and made application for admittance. The men did not believe that he was eligible while he held the position he did. Then Mr. Hennessey resigned and was admitted to the union.

In view of the several cases of smallpox among the crew of the John Oades, vaccination is being carried on pretty lively by the surgeons of the U. S. Marine Hospital Service. Masters are requested to send their crews to the postoffice building, so that the operation may be performed by the surgeon in charge. The present outbreak emphasizes the necessity of a proper quarantine hospital at Buffalo instead of the temporary quarters now available.

The steamer John Oades has been in the hardest kind of luck so far this season on account of being compelled to lay here in quarantine. Four cases of smallpox developed and, while the vessel has been fumigated and disinfected, the usual precautions will hold her here for probably a week longer. The large monetary loss to the owners of the Oades should place them in a position to warn their masters to ship none but clean, healthy looking men.

Great efforts are to be made to have the Erie canal enlarged so that boats of large tonnage will be able to traverse its waters. This will make an adequate all-water route between the west and New York. The matter was thoroughly discussed at a meeting of the trustees of the Buffalo Merchants' Exchange. As a result, five delegates from the exchange will be sent to the State Commerce Convention to be held at Syracuse in June to advocate this scheme.

A tug for lake service was launched last Wednesday from the shipyard of William Hingston & Son. Her dimensions are 70 feet long, 17 feet 4 inches beam, 8 feet 6 inches molded depth. The tug is owned by Capt. Theo. E. Cowles, a stockholder and treasurer of the White Star tug line of this city. Another tug will shortly be launched from the same yard. Dimensions, 50 feet long, 13 feet beam, 6 feet molded depth. The boat will be owned by Capt. Joseph B. Blake, of this city, and is to be named after Capt. John Perew.

Civil Engineer George A. Ricker is making measurements for a proposed drydock at the Buffalo yards recently acquired by the American Ship Building Co. from the Buffalo Drydock Co. The intention is to construct a drydock 600 feet long, 102 feet wide at top, 62 feet wide at bottom, 20 feet deep and 15 feet on water blocks; the gate is to be 66 feet wide at top and 62 feet wide at bottom. If the space available will admit of the construction and operation of the proposed drydock, the work will be commenced at an early date. The property cost the A. S. B. Co. \$456,000.

There is still some friction going on in labor circles at the docks, but it is expected that differences will be amicably adjusted in the course of the next few days. It seems that other freight handlers are looking for all such concessions as were made to the grain handlers and as much more as they can possibly secure from their employers. Owing to the decision of the Cleveland conference of longshoremen, at which the contract system was condemned, the national organization is bound to protect the Buffalo locals in their struggle against the stevedore system though the officers of the organization seem adverse to a general strike of longshoremen.

W. C. Farrington, president of the Lake Carriers' Association, and Capt. M. M. Drake, of the Lake Carriers' special committee on the Chicago drainage canal and its effect on navigation interests, intend leaving here on Wednesday for Washington to lay their case before the Secretary of War. They will make out a strictly impartial case against the canal, as vesselmen generally are convinced that the difficulties of navigation have greatly increased in Chicago river since last fall, and that it is likely to continue, in fact become worse as the season advances, unless some remedial measures are taken. The conservancy of navigable waterways is placed under the jurisdiction of the Secretary of War, and he is derelict in his duty to the country if he permits a safe, navigable waterway to be turned into a mill race or sluiceway so as to endanger ordinary and general traffic.

Capt. Winslow W. Greisser has succeeded Capt. Williams as keeper of the life-saving station. His appointment was announced by Capt. Kimball, chief of the life-saving service, and was made by the Secretary of the Treasury. Capt. Greisser was born at Youngstown, N. Y., and entered the service when he was 17 years old. For seven years past he has been stationed at Fort Niagara, and for 13 years previous to that he was keeper of the station at Marblehead on Lake Erie. His appointment was recommended by Capt. Chapman. In making announcement of the appointment, Capt. Kimball expressed regret at the retirement of Capt. Williams and said that the service would lose one of the best men it ever had.

CLEVELAND.

Special Correspondence to The Marine Record.

Senator Hanna secured the passage of a bill this week for a re-survey of the Cleveland harbor.

Mr. and Mrs. Robert Wallace and Mr. and Mrs. J. C. Wallace will sail for Europe next Wednesday.

Monday charters at 70 cents, iron ore, Escanaba to Lake Erie ports, caused quite a damper although it is a better rate than that paid this time last year.

Congressman Burton has introduced a \$250,000 appropriation as a river and harbor contingent or emergency fund until the regular river and harbor bill comes before Congress at its next session.

Mr. Norman B. Conger, marine agent of the Weather Bureau passed through Cleveland on Sunday on his way west. The Chief of the Weather Bureau apparently calls for active work on the lakes this season.

The Put-in-Bay excursion route will be opened early next month with the old favorite side-wheeler, City of the Straits, Capt. McLachlan. She is now undergoing a thorough overhauling, repairing, etc., at Detroit.

The yacht Adele is to be taken from Lorain to Sydney, Nova Scotia, where her owner, A. J. Moxham, now resides. Mr. Moxham was formerly manager of the Johnson Steel Works, at Lorain, and is now engaged in a similar business at Sydney, N. S.

Lorain can now boast of one of the most modern swing-bridges on the lakes. The longest arm covers a span of 120 feet and the total span is 181 feet. The iron structure has been nearly a year in building at a cost of \$175,000. Lorain is becoming quite progressively progressive.

According to the soundings taken last week Cleveland and Lorain have eighteen feet of water, Erie seventeen and one-half feet. Conneaut, seventeen feet nine inches and Ashtabula and Huron, seventeen and one-half feet. An effort is being made to have some more dredging done at the entrance to Ashtabula harbor.

Judge Ricks, of the United States Court, imposed a fine of \$100 and costs on two tugs of L. P. & J. A. Smith this week for violation of the orders of the United States Engineer, Colonel Jared A. Smith. The tugs Dennis Crowley and Campbell were accused of dumping mud within the limits set down by the engineer. The fine was paid.

There is about $1\frac{3}{4}$ million tons of ore on the docks at Lake Erie ports, this is about 400,000 tons less than ever before and practically amounts to a fair cleaning up ready for the season's shipments and receipts. The Iron Trade Review published a complete statement of the situation and stocks at all Lake Erie ports in its issue last week.

The will of the late Capt. Thomas Wilson, the millionaire vessel owner, provides that one-half of the estate shall go to the widow and the balance to the three children. On Mrs. Wilson's death one-half of the estate shall be used to establish a home, to be known as the "Wilson Home for Aged Couples," giving preference to sailors on the Great Lakes and their wives. The fortune is estimated at \$1,000,000.

General Superintendent S. I. Kimball and Capt. C. A. Abbey, inspector of life-saving stations and superintendent of construction of the United States life-saving department, visited this port on Tuesday. They have been visiting the government stations of Lake Michigan, where extensive improvements are being planned, especially at Chicago and Racine. Supt. Kimball said that the Cleveland station was one of the best on the Great Lakes. In saying so, the general superintendent of the life-saving service only mentions a fact that we are all well acquainted with. Capt. Motley is a skillful boatman, he also gives the best attention to all details of duty, is always affable and willing to do whatever lies in his power in the line of his service, moreover, he is a strict disciplinarian, and yet not obnoxiously so.

Mr. Ernest Lenihan, average adjuster for the Prime-McCurdy syndicate of underwriters, Chicago, paid Cleveland a visit a day or two ago in the interests of his company. Mr. Lenihan is a prompt business like gentleman and it is quite certain that he has the talent to facilitate the settlement of any business to which he may give his attention.

The bar which had formed across the mouth at Fairport harbor has been dredged away and the port is now open to navigation. Plans have been drawn for a breakwater which will prevent the silting up of the bar each season. Some attention is now being paid to the lay and position of a harbor when getting out plans for jetties, piers, breakwaters, etc. and the former uniform style at all ports, irrespective of prevailing winds, currents and other local conditions no longer prevails. It has been recognized that each port is entitled to particular and special consideration before entering upon expensive and at times extensive harbor improvements.

The Independent Ship Building and Repair Co., A. J. Jacobs, president, has just completed repairs to the schooner Smith & Post comprising a general rebuild; the lighter Icsman is undergoing large repairs. During the winter months the company has rebuilt the steamer H. B. Tuttle at a cost of about \$15,000 also the Progress at an outlay of \$10,000. Repairs have been made on the Iron Duke, Inter Ocean, Tasmania, T. H. Warmington (new spars), Botsford, D. Leuty, Scotia, J. F. Eddy, Desmond, Three Brothers, tugs Benham and Lady L. with minor repairs and overhauling on several other craft. The office and yard of the company is located at 21 Main street.

The Canadian government has addressed a communication to marine men in connection with the recent burning of Pelee Spit (the dummy) lighthouse and fog signal. Until some better arrangement can be made, a fixed white light will be shown from a lens lantern hoisted on a pole on the remains of the pier. It will not be possible, however, to establish a fog signal for some time. Col. Wm. P. Anderson, chief engineer of the department of marine and fisheries, Canada, recently visited the burned "dummy" light on the end of Point Pelee, Lake Erie, and reports that the pier would have practically to be rebuilt before a new light and fog alarm could be installed upon it. He suggests that instead of incurring a large expenditure on this pier it would be more in the interests of navigation to spend the money in establishing a first-class light and fog alarm station on the middle ground, leaving the question of re-establishing the "dummy" light for future consideration. He states that with the light on the middle ground, vessels could make a straight course for it from either direction clear of Grubb Reef to the westward and clear of Southeast Reef at the eastward, and that this would be a great advantage, especially to deep draught freighters. The Deputy Minister of Marine and Fisheries has presented Col. Anderson's views to officials of the Lake Carriers' Association and as soon as they can be heard from on the subject the Canadian government will be advised of their opinions. It is more than probable that the change recommended by Col. Anderson will be approved.

REPORTED BY THE LOOKOUT.

Once more it is rumored that J. J. Hill's entire fleet of freight steamers has been offered for sale. No offer was received and the fleet was withdrawn for a time. It is understood, however, that Mr. Hill would sell his boats if he had an opportunity. The reason for his action is that he wishes to run his boat lines on the most economical lines possible, using the largest vessels and the best that can be built. When his six 3,000 ton ships were built they were among the largest vessels on the lakes, but are considered small beside the 8,000 ton, 500 footers of today.

Capt. John Nicholson, who sailed the I. Watson Stephenson for several years, has just secured judgment against the Stephenson Transportation Co. for about \$900 salary due him. Capt. Nicholson had a streak of bad luck the last season he sailed the I. Watson Stephenson, and the company decided to dispense with his services, but did not so inform him until so late in the following season that he had lost all opportunity to get another position. The case was tried in Chicago before Judge Kohlsaat. Capt. Nicholson is now sailing the Philetus Sawyer.

Apparently John Gordon has succeeded in enlisting sufficient capital to carry out his great Buffalo and Chicago passenger steamer scheme. Chicago papers state on authority that the keels of the steamers will be laid at the Calumet yard in June, and that both will be ready for the Pan-American Exposition at Buffalo in 1901. The two steamers will form a line between Chicago and Buffalo. They will stop at Milwaukee, Detroit, Mackinaw Island and Cleveland, making two trips a week at all points. They will have a guaranteed speed of eighteen miles an hour. Their length is to be 470 feet, beam 50 feet, molded depth 29 feet.

The Pere Marquette R. R. will establish on May 14th a new steamer line between Ottawa Beach and Milwaukee. The steamers F. & P. M. No. 4. and Petoskey will be used in this service, which will be first-class in all respects. Connecting train will leave Saginaw at 4:35 p. m., arriving at Ottawa Beach at 11 p. m. Steamers will arrive at Milwaukee at 6 a. m. East-bound steamer will leave Milwaukee at 10 p. m., connecting with train leaving Ottawa Beach at 5:50 a. m., and arriving at Saginaw at 11:55 a. m. These steamboat trains will carry cafe parlor cars between Detroit and Ottawa Beach via Grand Rapids, in which supper and breakfast will be served. It is hoped that the new line will be a popular one with the traveling public.

SURVEY OF THE ILLINOIS RIVER.

Mr. Mason asked leave to call up the joint resolution (S. R. 107) to provide for a survey of the Illinois river. It is a joint resolution reported by the Committee on Commerce.

The secretary read the joint resolution, and, by unanimous consent, the Senate as in Committee of the Whole proceeded to its consideration. It directs the board of three engineers appointed by the Secretary of War in pursuance of a paragraph in "An act making appropriation for the construction, repair and preservation of certain public works on rivers and harbors, and for other purposes," approved March 3, 1899, to make a survey and estimates of cost of the improvement of the Upper Illinois river and the Lower Des Plaines river in Illinois, with a view to the extension of navigation from the Illinois river to Lake Michigan, at or near the city of Chicago; further, to report the estimates of cost for a channel 10 feet deep, and for a channel 12 feet deep, and for a channel 14 feet deep, through the proposed route, and provides that the estimates shall cover and include a proper connection at Lockport with the sanitary and ship canal which has been constructed by the sanitary district of Chicago. The board of engineers is also further authorized and required to make a survey and estimate of cost for the improvement of the Lower Illinois river from the end of the proposed route to the mouth of the river for channels 10, 12, and 14 feet deep, respectively, and to report the estimates of cost thereof. The surveys and estimates of cost shall be made in pursuance of the provisions contained in the act aforesaid, and the expense for making the reports required by this joint resolution shall be paid out of the appropriation of \$30,000 contained in the paragraph of the act aforesaid.

The joint resolution was reported to the Senate without amendment, ordered to be engrossed for a third reading, read the third time and passed.

TRIPLE LAUNCH AT WILMINGTON, DEL.

The Harlan & Hollingsworth Co. most successfully launched on Saturday last from one set of ways three tugs for the Pennsylvania R. R. Co., named respectively the Wilmington, Johnstown and Harrisburg, in the space of 17 minutes from the time the first wedge was driven the last boat struck the water.

The dimensions of these boats are 100 feet in length over all; beam, moulded, 22 feet; depth, 12 feet 2 inches. House on deck partitioned off so as to form galley, boiler room, engine room and cabin; also an upper deck with pilot house, skylight, companionways, etc. Engine compound, 20" x 40" and 26" stroke, supplied with steam by two Almy water tube boilers.

The various other work in the yard is progressing rapidly. The steamer Whitney for the Metropolitan S. S. Co. will be launched shortly. The Manna-Hata launched last month for the N. Y. & Baltimore Trans. Line, will be delivered this month, and the barges for the Rockland & Rockport Line Co. are being rapidly erected. The new 400-foot ship, the first of three for the Mallory Line, will be laid down on the ways just vacated by the tugs for the Pennsylvania R. R. The new yacht for Mr. Charles Fletcher, of Providence, R. I., is going to be one of the handsomest additions to the fleet of 1901, and will be laid down immediately on launching the first barge. The steamer Foxhall, undergoing extensive repairs, will be delivered shortly. The steamer Indian, of the Boston & Philadelphia S. S. Co., is being lengthened 40 feet. This with the large amount of car work represents a very busy yard.

A RIGHTEOUS PROTEST.

At the meeting of Lodge No. 9, Shipmasters' Association, held recently, the following action was taken:

"Whereas, The common council has made the selection of a man for harbor master who is not a seaman, 'having never served any time as such; and,

"Whereas, It has been a custom prevailing at all ports on the Great Lakes for the last fifty years to appoint captains to such position; and,

"Whereas, We feel that such positions by right belong to the marine men, as being the best qualified to perform the duties of such office; therefore be it

"Resolved, That we, the Shipmasters of Toledo Lodge No. 9, in regular session, condemn the action of said common council as being unjust and unfair to the marine men of Toledo, inasmuch as there were plenty of good and capable men well qualified to fill said position; and be it further

"Resolved, That such action is a gross violation of the established rule, and we therefore consider it an insult to our fraternity.

THE WORLD'S PRODUCTION OF PIG IRON AND STEEL.*

In the following table is given the production of pig iron and steel in all countries in 1898, or in the most recent year for which statistics have been received. The statistics of steel production for the United States, Great Britain, France, Belgium, Austria-Hungary, Sweden, Spain and Canada embrace ingots and direct castings, but for Germany and Luxemburg, Russia and Finland, and Italy complete ingot statistics are not available and the statistics for finished steel have therefore been used.

COUNTRIES.	PIG IRON.			STEEL.		
	Years.	Metric Tons.	Per-centage.	Years.	Metric Tons.	Per-centage.
United States.....	1898	†11,962,992	33.24	1898	†9,076,295	37.31
Great Britain.....	1898	8,747,968	24.31	1898	4,740,909	19.49
Germany and Luxemburg.....	1898	7,232,988	20.10	1898	5,779,570	23.76
France.....	1898	2,534,427	7.04	1898	1,473,100	6.05
Belgium.....	1898	979,101	2.72	1898	653,130	2.68
Austria and Hungary.....	1897	1,308,423	3.64	1896	880,696	3.62
Russia and Finland.....	1898	2,222,469	6.18	1898	1,145,758	4.71
Sweden.....	1898	531,766	1.48	1898	265,121	1.09
Spain.....	1898	261,799	.73	1898	213,015	.88
Italy.....	1897	8,393	.02	1897	63,940	.26
Canada.....	1898	69,859	.19	1898	21,885	.09
Other Countries (about).....	1898	127,237	.35	1898	15,532	.06
Total.....		35,987,422	100.00		24,328,951	100.00

† Actual tonnage pig iron for 1899, 13,839,415 metric tons.

† Estimated tonnage steel for 1899, 10,668,602 metric tons.

* From an illustrated publication issued by the Bethlehem Steel Co., South Bethlehem, Pa.

THE WORLD'S PRODUCTION OF IRON ORE AND COAL.*

The following table gives the production of iron ore and coal in all countries in 1898, or for the latest year for which complete statistics are available.

COUNTRIES.	IRON ORE.			COAL AND LIGNITE.		
	Years.	Metric Tons.	Per-centage.	Years.	Metric Tons.	Per-centage.
United States.....	1898	19,745,770	26.55	1898	†199,559,709	29.81
Great Britain.....	1898	14,404,582	19.36	1898	205,298,973	30.66
Germany and Luxemburg.....	1898	15,893,246	21.37	1898	130,928,490	19.56
France.....	1897	4,582,236	6.16	1898	32,439,786	4.84
Belgium.....	1897	240,774	.32	1898	22,075,093	3.30
Austria-Hungary.....	1897	3,335,005	4.48	1897	35,939,417	5.37
Russia.....	1897	4,107,470	5.52	1898	12,862,033	1.92
Sweden.....	1898	2,302,914	3.10	1898	236,277	.03
Spain.....	1898	7,125,600	9.58	1898	2,526,600	.38
Italy.....	1897	200,709	.27	1897	314,222	.05
Canada.....	1898	52,763	.07	1898	3,785,408	.56
Cuba.....	1898	166,712	.22			
South African Republic.....				1898	1,907,808	.28
India.....	1897	44,010	.06	1898	4,642,244	.69
Greece.....	1898	501,038	.67	1898	17,300	.00
New South Wales.....	1897	238	.00	1898	4,812,048	.72
Other Australasia.....				1897	1,512,519	.23
Japan.....	1896	27,421	.04	1897	6,000,000	.90
Algeria.....	1897	441,467	.59			
Other Countries (about).....	1898	1,216,484	1.64	1898	4,667,182	.70
Total.....		74,388,439	100.00		669,525,109	100.00

† Estimated tonnage coal and lignite for 1899, 222,516,556 metric tons.

* From an illustrated publication issued by the Bethlehem Steel Co., South Bethlehem, Pa.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, report the Eastern freight market as follows:

Since our last report freights show no change, but the enquiry for grain room has somewhat improved, and been met in part by re-charters of boats taken at higher rates. There is some further demand, however, for May shipment (June being comparatively neglected), and an advance in rates for May boats is not unlikely to take place, as such tonnage is not plentiful. Time charters have been mainly for short commitments, as parcel freights are generally out of line with the rates demanded by owners. Timber freights in the Gulf are well maintained, and there have been some fixtures for deals from the British Provinces at rates varying from 50s. to 52s. 6d. for ports on the West Coast of England. Steamers for miscellaneous purposes continue in good request, and there is a fair amount of enquiry for coal tonnage, mainly for the Mediterranean, at rates not far from owners' figures, and which is likely to result in business shortly.

Business in sail tonnage has been exceedingly dull, only very few charters resulting. Freights to the East are apparently weak, but owners are not willing to meet the ideas of shippers, hence are holding back. In other lines there is nothing new, but we may mention some enquiry for lumber tonnage from the Gulf to the River Plate, for which \$14 might be secured. From another source we quote coastwise freights on coal cargoes as follows: From Philadelphia to Boston, Salem and Wareham, 75 to 80 cents; Providence and the Sound, 65 to 70; Lynn, 85 to 90 cents; Newburyport,

90 cents; Portsmouth and Portland, 80 cents; Dover, \$1.10 and towage; Saco, \$1.00 and towage; Bath, 80 to 85 cents; Gardiner 85 and towage; Banger 80 to 90 cents. The further lower ports are 5 to 10 cents above these rates. Prices on soft coal f. o. b. the various shipping ports are quoted as follows: Norfolk and Newport News, \$2.50-2.75; Baltimore and Philadelphia, \$2.25-2.50 on the cheaper grades, and \$2.50-2.75 on the better grades. New York Harbor, \$2.55-2.75 on the cheaper grades and \$2.85-3.00 on the better grades of coal. Alongside prices, \$2.85-3.00 on Clearfield and \$3.05-3.25 on the better grades.

GOOD WORDS FOR THE STANDARD AUTOMATIC RELEASING HOOK.

NAVY DEPARTMENT, BUREAU OF EQUIPMENT, }
WASHINGTON, D. C. }

I have made a careful examination of the Automatic Boat-Detaching Apparatus, tested on board the Fortune at sea, and think it not only the best device of the kind, but the simplest and most reliable I have ever seen, and would recommend that it be adopted on board all sea going and other vessels. (Signed) GEORGE DEWEY, Chief of Bureau.

NAVY DEPARTMENT, BUREAU STEAM ENGINEERING, }
WASHINGTON, D. C. }

I have examined the Automatic Boat-Detaching Device of the Standard Automatic Releasing Hook Co., State street, New York. I have examined many other devices for obtaining the same end and believe this to be superior to any other. (Signed) GEO. W. MELVILLE, Chief of Bureau.

LONGITUDE BY THE RIGHT ASCENSION OF THE MOON.

For more than a century scientific people have entertained and fostered the belief that the angular distance of the moon from some other heavenly body in the Zodiac would furnish the means for finding the longitude at sea. Vast and costly computations have been made for the Nautical Almanac every year, forecasting the distances of the moon from about a dozen different objects, for every three hours in the day the whole year round; and all to no purpose, because lunar distances can not be observed with sufficient accuracy at sea.

In spite of this fact, lunar observations have been made and are still a prominent feature in the examinations of masters and mates of ocean-going vessels, because teachers and professors are still of opinion, that "when these observations are regularly practiced—but in no other case—they furnish a tolerably accurate method of checking the error of the chronometer at sea;" as if regular practice could overcome the inherent defects of the method and the rolling and pitching of a vessel, rendering such observations actually an impossibility at sea.

It is a well established fact that even on shore with a firm foothold, the best observers with the sextant, are not able to measure moon distances nearer than one minute correct, causing an error of two minutes in Greenwich time, equal to an error of one half degree in longitude.

The fault is not so much in the observers and the instrument, as in the method employed. It is a mistaken idea to find by direct measurement the distances, because their increment is so exceedingly small that it makes very little impression upon time and can hardly be noticed in the instrument. Measurements of that kind require certain methods or devices magnifying the increment, so that a large error in the observations will cause but a small error in the quantities sought.

On this principle my new method of finding the longitude by the right ascension of the moon is based. An altitude of the moon in combination with an altitude of some star furnishes for the two objects the hour angles, the sum or difference of which equals the difference of the right ascensions of the two objects; and as the right ascension of a star is always exactly known, the right ascension of the moon is easily found, and consequently the corresponding, Greenwich time also. The Nautical Almanac contains the right ascension of the moon for every hour in the day, while lunar distances are given only for every three hours; by the way a great advantage of the former over the latter concerning interpolation to find Greenwich time.

In the solution of the problem the errors which may affect the reckoning have to be considered; namely, 1st, an error in the approximate mean time at ship, or in the longitude by account, causing 2, an error in the approximate Greenwich time, attended by 3, an error in the declination of the moon, and 4, an error in the latitude. The error sub 4 is avoided by taking the altitude of an additional star, and from the two stars compute the latitude by the method explained in the issue of the MARINE RECORD of April 19 last. The error sub 3, causing an error in the hour angle of the moon is ascertained by the formula

$$dt = \left\{ \frac{\tan b \tan c}{\sin t \tan t} \right\} dc$$

in which b represent the latitude, c the declination of the moon, t the hour angle, dt the change in the hour angle consequent upon a change in the declination of dc. Under this arrangement it will be seen farther on, that the errors sub 1 and 2, are of no consequence.

The following example fully illustrates the reckoning. For want of space only the results of the reckoning for latitude are given, differing a little from those published in the above mentioned issue of the RECORD, on account of a small error in the first logarithm of the previous reckoning.

Example: March 11, in 78° 0' N. lat. and 40° 5' E. long., by account, simultaneous altitudes of the moon and two stars B and C were taken, from which the following true altitudes were obtained. Watch showing 3h 40m, B being nearest to the meridian.

*B's true alt. 24° 58' W. *C's true alt. 27° 41' W. Moon's true alt. 15° 50' E. find the exact latitude and longitude.

By Nautical Almanac,

*B's R. A. 12h 33' 12.86". *C' R. A. 8h 33' 12.86".

Decl. 15° 20' N.

Decl. 25° 30' N.

With these data and the preceding altitudes are found:

By first approx. Hour angle of C 76° 36' 14" Lat. 79 50 14

By second approx. 75° 8' 44" 79 59 33

Cor. of assumed lat. = 110.23 = 120.41 = 2° 0' 25" assumed lat. 78 0 0 N.

With the exact latitude the reckoning for the moon's R. A. is as follows:

d. h. m. Watch March 10 15 40 Long. in time 2 40

Approx. G. time March 10 13 0 for which the following data for the moon are found in the Naut. Almanac.

March 10, 12h R. A. 19 32 20.13 Decl. 15 59 30.0 N. " " 13h 19 34 22.75 16 14 37.4 N.

diff. 2 2.62 15 7.4

To find the hour angles:

1st for the *C Comp. alt. 62 19 0 " lat. 9 59 35 cosec. 0.760629 Pol D. 64 30 0 cosec. 0.044512

136 48 35

Minus Comp. alt. 68 24 18 sin. 9.968394 6 5 18 sin. 9.025558

19.799093

cos. 9.899547

half hour angle 37° 29' 11"

hour angle 74 58 22 W.

2d for the Moon

Comp. alt. 74 10 0 " lat. 9 59 35 cosec. 0.760629 P. D. 73 45 23 cosec. 0.017692

157 54 58

78 57 29 sin. 9.991885 4 47 19 sin. 8.921831

19.692037

cos. 9.846019

half hour angle 45° 27' 13"

hour angle 90 54 26 E.

Moon's hour angle 90 54 26 E.

*C's " 74 58 22 W.

diff. of R. A. 165 52 48 = 11 3 31 20 *C. R. A. 8 33 12 86

Moon's R. A. 19 36 44.06

Now the auxiliary formula as to the ratio of increase or decrease of the moon's hour angle on account of an error in the declination has to be consulted, and the following reckoning to be made:

lat. 80 0 25 tan. 0.753989 Decl. 16 14 37 tan. 9.464419 H. A. 90 54 26 sin. 9.999945 90 54 26 tan. 1.800378n

0.754044 7.664041n number 5.67603 -0.00461 +0.00461

dt = 5.68064

dc = 1

or dt = 5.68064

This quotient tells, that when the declination of the moon increases, its hour angle increases also, and consequently the greater will be the difference in the computed R. A. and that at Greenwich, whereas a decrease of the assumed declination will rapidly be followed by a decrease of the R. A. and at a certain point both declination and right ascension will agree for Greenwich time.

The moon's true place or orbit is given by the right ascensions and declinations in the almanac, the former being the abscissas, the latter the ordinates for 12 hours and 13 hours Greenwich time. These ordinates and the true orbit are intersected by the assumed orbit furnishing two triangles from which by simple proportion Greenwich time is found. A first point of the assumed orbit is furnished by the computed moon's right ascension (19h. 36m. 44.09s) as abscissa of the assumed ordinate (Decl.=16° 14' 37"); and the incline is given by the above quotient. As the quotient — is

positive, that is, agreeing with the increase of abscissas and ordinates, the incline of the assumed orbit must be in the direction of the true orbit, and the point where both orbits intersect one another, will be the point at which R. A. and decl. do agree for Greenwich time. This part of the computation is readily made by using proportional logarithms.

Auxiliary ordinates of the assumed orbit:

19h. 36m. 44.06s.—19h. 32m. 20.13s.=

4m. 23 93s=1° 5' 59" L. 4358

log 5.6806 0.7544

—0° 11' 37.0" 1.1902 assumed 16 14 37.0

first aux. ord. 16 3 0.0 2m. 21.31s.=35' 19.65" P. L. 7072 log 5.6806 0.7544

1.4616

—0° 6' 13.1" assumed 16 14 37.0

second aux. ord. 16 8 23.9

The first and second auxiliary ordinates pertain to the assumed orbit at 12 hour and 13 hour Greenwich mean time. The difference between them and the ordinates of the true orbit at 12 hour and 13 hour are 3' 30.0" and 6' 13.5" respectively, furnishing the base lines of the two triangles mentioned above.

Greenwich mean time at the moment of observation:

6' 13.5" + 3' 30.0" = 9' 43.5" : 3' 30.0" = 60m : x

60m. P. L. 4771

3' 30.0" " 1.7112

2.1883

9' 43.5" P. L. 1.2674

oh. 21m. 36s. .9209

12 0 0

Greenwich mean time 12h. 21m. 36s.

To find ship's mean time we have:

*C's hour angle 74° 58' 14" = 4h. 59m. 53s. W.

*R. A. 8 33 13

Merid. R. A. 13 33 6

Mean sun's R. A.

March 10, noon 23h. 16m. 31.90s.

Cor. for 12h. 21.6m. 2 1.83

Mean time at ship 14 14 32 " " Greew. 12 21 36

Long in time 1 52 56 E. = 28° 14' 0" E.

It is worthy of note, that the latitude by account differs from the true value 2° 0' 25", the longitude 11° 51' 0", the approx. Greenwich time 0 h. 38 m. 24 s., and that in spite of all these drawbacks the preceding method furnishes exact results. Proof of the correctness of reckoning and observations is obtained by computing the meridian R. A. from the altitude of the moon, using the exact Greenwich time for the elements of the moon.

The vain attempt of observing lunar distances at sea, to satisfy academical pretensions, admits of no comparison with taking simultaneously the altitudes of three heavenly bodies, a task within the reach of any two observers. And as the greater part of the reckoning for three altitudes is along well known lines, mistakes are reduced to a minimum. The only difficulty for a novice may be the construction of the diagram of the orbits necessary to facilitate computation and guard against errors, but this difficulty will soon be overcome by always bearing in mind that the abscissas have two functions, namely to represent the right ascension as well as the Greenwich time.

The best results for longitude are obtained when the moon and one of the stars are at the premier vertical.

Chicago, May, 1900.

JOHN MAURICE, Civil Engineer and Nautical Expert.

MARINE PATENTS.

Patents issued May 9, 1900. Reported specially for the MARINE RECORD. We furnish complete copies of patents at the rate of 10 cents each.

648,911. Sailing craft. Douglas Beardsley, Auburn, N.Y.

648,923. Sea valve for vessels. Frank Charette, Toledo, O.

649,046. Conning tower for warships. B. A. Fiske, U. S. Navy, assignor to the Western Electric Co., Chicago.

649,065. Propeller for ships. D. G. Martens, Christiana, Norway.

649,084. Motor driven by water currents. S. N. Stewart, Vienna, Austria-Hungary.

649,248. Propeller. C. D. Keller, Toledo, O.

649,250. Marine electric light fixture. G. L. Martin, New York, N. Y.

649,328. Light-buoy. G. W. Lyth, Stockholm, and C. H. Ramsten, Malmo, Sweden.



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CLEVELAND, O., MAY 17, 1900.

WHEN the appointment of harbor masters, bridge tenders and similar positions are made at lake ports, it would be quite in order for the city officials to give the preference to those who have previously earned their living afloat.

PORT Huron's canal to drain Black river will be 6,645 feet long and the average excavation will be 30 feet. Four bridges will be necessary, each 1,000 feet long. The question arises, if the bottom of the canal is several feet lower than the bottom of the lake, what will be the effect on the flow through the mouth of St. Clair river opposite Port Huron?

THE late Capt. Thos. Wilson bequeathed half of his fortune, estimated at a million dollars, for the establishment of a home for aged couples, in all cases preference is to be given to sailors on the Great Lakes. Mrs. Wilson was deeply interested in her late husband's charitable work, and while no exact period was specified for the opening of the Wilson Home for aged couples, it is believed that Mrs. Wilson will see that the institution is placed in proper working order.

THE Cuyahoga customs district, including Cleveland and minor adjacent ports, registered in July last 293 vessels, while Buffalo Creek, in which Buffalo and neighboring ports are included, registered 315 vessels, or 22 vessels more than Cleveland. The Buffalo tonnage aggregated 184,967 gross and the Cuyahoga 332,190 tons, so that while the Buffalo district registered a larger number of vessels, the tonnage of the Cleveland district was 147,223 tons in excess of that owned in the Buffalo Creek district.

ONE of the weakest links in the chain of lakes will be taken care of through the Emergency Bill reported by the River and Harbor Committee. We refer to the St. Clair canal. There is a provision embodied in the measure for the survey of the St. Clair ship canal, with the view of increasing the width to double the present capacity, or building a second canal parallel with the present channel and of equal width, so that upbound vessels may take one route and down-bound craft the other, thus obviating the possibility of collision, and an interruption of navigation. We can't but think that the good offices, representations, and recommendation of Col. Lydecker, Corps of Engineers, U. S. A., in charge of the district, has had much to do with the accomplishment of this absolutely necessary improvement. We say accomplishment, because a recognition of the project is equivalent to an appropriation to defray the cost of a parallel channel at the St. Clair Flats canal.

TAKING into consideration the several groundings and minor collisions which have occurred this week, perhaps the case of the steamer Roumania at Buffalo is the most notable. In this instance a moderate sized steamer, grain laden, was entering the port with the assistance of a tug, when she met with so strong a current as to ground her heavily enough to defy the pulling power of half a dozen tug boats, and lightering was found necessary before she could be floated. It is said that there is so much uncertainty about the force of the current at the entrance to the Buffalo harbor, that tugmen and vessellmen find it impossible to avert accidents. The current is caused by the ice pack, and flows inside the breakwater sometimes with a strength that upsets the nicest calculations of the oldest pilots. This is rather a hard character to give the much frequented port of Buffalo, and, when such conditions are found to exist it would be in line with discretion to employ extra steam assistance on entering the harbor. The current took charge of the Western Line steamer Vanderbilt in the south branch of the Chicago river on Monday, in much the same manner, but then we can expect nothing much different there now. Vessels have also grounded at one or two other ports, until it begins to look as if lake commerce is to be retarded through inefficient harbor arrangements more than from any other cause.

A RESOLUTION has been reported favorably by Chairman Grosvenor of the House Committee on Merchant Marine and Fisheries, for the establishment of a new steamboat inspection district at Toledo. During the last year there were 323 steamers examined having an aggregate tonnage of 243,486. Of this number 93 were inspected in the Toledo and Sandusky districts, and of these 93 steamers, 47 were in the Toledo district and 46 in the Sandusky district. The total number of officers licensed was 1,336, nearly one-third of whom are employed in the Toledo and Sandusky districts. It is pointed out that because all the inspection of boats and the examination and licensing of men must take place at Cleveland there is delay and unnecessary expense entailed that would otherwise be avoided. The Supervising Inspector-General of the Steamboat Inspection Service, James A. Dumont, favors the creation of the new district. A peculiar mystery about the licensing and inspection service is, that the officers, from the district supervising inspectors down to the clerks, are not permitted to divulge the name of a candidate to whom they may have granted a license throughout the year. This is quite in line, though, with some of the other asinine rulings of the Board of Supervising Inspectors of the U. S. Steamboat Inspection Service.

THE old and true aphorism, "better late than never," is exemplified by the House Committee on Foreign Affairs reporting favorably on the resolution authorizing the President to appoint the United States members of an international committee to determine the best means of maintaining lake levels, and also to ascertain if the lakes are being robbed through the present artificial outlets, and the effect which several similar projects will have on the mean levels. The Toronto World in an editorial on Wednesday said in part: "This is a question in which Canada is vitally interested. The United States Government engineers, after an examination into the probable effect of the Chicago drainage canal, have come to the conclusion that the lowering of the lakes may be as much as eight inches. This is a very serious matter when the expense of dredging is taken into consideration. The resolution referred to authorizes the President to invite Great Britain to join in the work of such a commission, each Government to appoint four members. In addition to the Chicago drainage canal, the enquiry is designed to ascertain the effect of the improvement of the Welland and St. Mary's canals. It will cover the entire lake region."

CHICAGO is fast feeling the effects of making the port an unsafe one for general marine traffic. Mayor Harrison may fret and fume and go into hysterics if he pleases anent the lowering of the several tunnels crossing the river, he may also turn his attention to the center pier obstructions damming up the free flow of water to the drainage canal, all of this may be done and the evils eradicated in course of time, but by that time, Chicago will have partly lost its hold on lake traffic, and, in the light of past experiences, it will never regain it, or rather, never being an inclusive and positive word, let us say not for a decade or two at least, if then. The Calumet river in the suburban district of South Chicago appears to be the future port of the head of Lake Michigan, while the old Chicago creek can be turned into a sluiceway for the drainage canal.

H— to pay and no pitch hot is about the situation vessel masters find themselves in these times in Chicago creek. The Secretary of War should furnish the pitch and the Chicago municipality—do the paying, more than that, nothing can be payed before calking. Between the War Department and the Drainage Canal Commissioners, the commercial marine has been nicely bamboozled. Major Marshall, Corps of Engineers, U. S. A., for some years stationed at Chicago, repeatedly warned all interests concerned that if a current was created in Chicago river it would be almost impossible to use the river for navigable purposes, and already the port is being shunned, but then, Chicago is a great railroad center, and, Chicago as a municipality, doesn't care for its creek anyway, being bridged at every block was always a nuisance to the average citizen, hence South Chicago had better be utilized for the purposes of lake commerce.

SECRETARY ROOT gave a hearing at the War Department on Wednesday, to representatives of the Lake Carriers' Association, the trustees of the Chicago drainage canal and the municipality of Chicago with a view to prompt action for the protection of navigation interests against loss or damage as the result of the opening and operation of the drainage canal. Remarks were made by Messrs. Harvey D. Goulder, Frank J. Firth, and J. G. Keith, representing the Lake Carriers' Association; Mr. Springer, representing the canal trustees, and F. J. McGann, representing the Mayor of Chicago. All were agreed as to the immediate necessity of regulating the flow of water in the canal so as to permit of safe and easy navigation, but there was a diversity of opinion as to the method of procedure.

LUMBER shippers are holding off chartering on account of a paltry 25 cents or 50 cents per M feet as asked for by vessel owners and brokers. This is a very temporary and short sighted policy. With so great a portion of the lake tonnage chartered for ore, coal and grain, it is quite assured that the boats remaining in the lumber trade will have more than they can attend to before the close of the year. There is more lumber to be brought down the lakes, less boats to do the carrying, and the natural result will be higher rates as the season advances. On the other hand, it can fairly be stated that lumber dealers, and large consumers secured considerable tonnage last winter so as to handle their own cargoes, others would do well to get their lumber from the mills as early as possible, at least, such is the present outlook.

THREE members of Lloyd's underwriting committee are now in the States on a tour of inspection. The deputation is made up of Mr. James Dixon, London; R. S. Allen, Liverpool; and J. B. Adam, of Newcastle-on-Tyne. These gentlemen will visit the Eastern seaboard, the principal lake ports, including Toronto, Buffalo, Cleveland, Chicago, Toledo and Detroit, they will also go to San Francisco. Their object is to visit the shipbuilding centers of the United States, to see the American surveyors to Lloyd's Register and to report generally on the shipbuilding situation in the United States. It may be remarked that these gentlemen are members of Lloyd's Committee, not surveyors, or in other words, they are principals and not subordinates.

IT WAS left for the whalebacks, managed in the office of the Bessemer Steamship Co., to accept the ¼ cent reduction on grain freights out of Chicago this week. These two boats were taken off the market on Saturday when rates went to 1¾ cents, the Rockefeller people saying they would not take less than two cents. Telegraph orders were afterward forwarded to place the boats at the reduced rate, and they were chartered at the lower figure. That the Rockefeller interests which took such an immense quantity of tonnage on season contracts at high rates last fall and winter should now be employing their own boats at these low rates is considered significant as regards iron ore interests.

IT IS high time that a national naval reserve should be formed and the service become an auxiliary to the U. S. Navy. This beating about the bush, making State grants, detailing practice ships, etc., is all balderdash. Naval reserves are an arm of the National service or nothing. Naval militia is a misnomer, unless by that term a corps of marines is meant. Let all Reserves join the Navy, be given transportation and subsistence to a point for annual or periodical drill, and held strictly to the call of the Secretary of the Navy by the issuance of an annual retaining fee of say \$50.

FLOTSAM, JETSAM AND LAGAN.

Capt. Kynaston, aged 82 years, for 33 years keeper of the Milwaukee light house, died on Tuesday last.

The striking sailors and the owners at Manitowoc agreed on a compromise of wages and the men went back to work.

Jacob Hass, a deckhand on the steamer Progress at Erie, Pa., was fatally injured last Thursday by being caught in the hoisting machinery. He shipped at Duluth.

A committee has been appointed by the Toledo Chamber of Commerce to investigate the reported dangerous condition of the harbor. The obstacles, if found, will be removed.

A round trip between Buffalo and Duluth, meals and berth included, on the Anchor Line steamers India, China and Japan costs a trifle over \$50, or about \$4 per day. The trip occupies thirteen days.

The Chicago drainage canal has resulted in lowering the water in the Chicago river to such an extent as to put an embargo on navigation. Now Chicago will probably ask the National Government to help it pay the expense of dredging the river.

The suit to recover damages for the lives of five members of the crew of the schooner Mary D. Ayer, which was lost on Lake Michigan after collision with the steamer Onoko, has been decided against the contestants.

The ranges established at Port Dalhousie, on the Welland canal, in 1884, by which vessels using the canal could ascertain the errors in their compasses, have not been maintained this season, and are not now in existence.

The breakwater at Harbor Beach, (Sand Beach) Huron county, is rapidly going to pieces, owing to lack of repairs. Vesselmen assert that unless speedily rebuilt the protection will soon be entirely destroyed.

According to the formal survey it will cost \$2,000 to repair the damage sustained by the steamer Jay Gould through the falling of the east lift of the Van Buren street bascule bridge at Chicago. The city pays the bill.

R. Bell & Co.'s tug Samuel J. Christian will shortly pass into the hands of L. Sullivan & Co., of Toledo. The Christian was at one period the largest harbor tug of Buffalo harbor. She was built on the Atlantic coast, her keel being laid at Baltimore, Md.

Capt. Harding, of the Engineers' Corps, stationed at Grand Rapids, has made an examination of the Paw Paw river with a view to its navigability. It is claimed that many factories will be put up along the stream if it is improved so that boats can go up it.

William Spencer, aged 76 years, died at Belding, Mich., on Saturday last. In the early days of navigation he was captain on river boats that plied between Grand Rapids and Grand Haven for several years, and also navigated the lakes from Detroit, Grand Haven and Milwaukee.

The Collins Bay Rafting and Forwarding Co., Collins Bay, Ont., has appointed the following officers for their fleet of vessels: Steamer Orion, Captain, George Mackie; engineer, M. Tetto. Steamer Saturn, Captain, W. Manson; engineer, J. Tetto. Steamer Rival, Captain, J. A. McDonald; engineer, T. O'Riley.

The St. Mary's Falls canal will be in charge of the following men this season: Superintendent, Donald M. MacKenzie; chief engineer, E. Green; assistant superintendent, R. J. McKeone; Poe lock-masters, J. Campbell, sr., John McNaghton and Lawrence Ermatinger; Weitzel lock, Charles H. Spalding, R. D. Ashmun, James Galley.

The steamer R. E. Burke continues to make her regular trips down the Chicago drainage canal. The attempt said to have been made by the drainage trustees to regulate the speed of the boats through the earth section proved to have been decidedly unofficial and circulated with the idea of discouraging competition in the new field. With the warmer weather the travel down the canal is steadily increasing.

The drainage canal current in Chicago river is causing vessel men still another trouble. Logs and old timbers, which in former days were wont to sink to the bottom, are now kept moving along by the current and have become a menace to propeller wheels. The steamer Fred Pabst, in going down the river Saturday night with a cargo of grain, picked up such a log in her wheel and was disabled.

The lumber market is still slow on account of the refusal of the buyers to accept present terms, yet there is considerable lumber moving down the lakes and some charters are being made. Lake Huron to Ohio ports, \$1.50, Georgian Bay and Lake Michigan to Lake Erie ports, \$1.75, and from Lake Superior to the lower lakes, \$2.50 to \$3. Coal is going up at 50 cents, and small boats have a chance to carry loads both ways.

The Donnelly Salvage & Wrecking Co., Kingston, has three steam pumps at Soulanges canal of the St. Lawrence system, pumping out a large body of water that collected and threatened the north bank. There is an outlet for this water to carry it into the canal, but during the freshet this duct became clogged, allowing the water to accumulate. It reached a depth that threatened to wash away the bank. The Donnelly company will keep the water down until such time as the duct can be cleared out and carry off the superfluous body of water.

LAKE FREIGHTS.

The week has been characterized by a slowness in handling cargoes and a consequent detention of vessels at loading and discharging ports, vessels on season charter for iron ore were compelled to seek other cargoes, as, in the first place, the ore piles were still partially frozen, and latterly the railroads could not bring the ore forward from the mines fast enough to give vessels prompt dispatch. There has also been some detention experienced in loading coal cargoes, lumber, too, has been quiet, chiefly on account of shippers asking for a lower rate than that quoted by owners of vessels.

Iron ore—As the boats chartered for the season can not be loaded promptly, there is little chance for extra chartering and the Escanaba rate is down to 70 cents, a decline of 10 cents made on Monday, but only a small quantity of tonnage was placed at this rate. Other rates are unchanged and last week's figures are still nominally quoted.

Grain rates took a slump of $\frac{1}{4}$ cent both from Chicago and Duluth, the rate from the former port being $1\frac{3}{4}$ cents on corn to Buffalo, and $3\frac{1}{2}$ cents to Lake Ontario, $2\frac{1}{2}$ cents on wheat from Duluth, with light chartering from the latter port. Toledo to Cleveland 1 cent on $\frac{1}{2}$ cts.

Coal freights declined 5 cents to Escanaba and are now at 50 cents, the same rate prevails to the head of the lakes. Coal cargoes are bunched on Lake Michigan and loading has been slow at Cleveland, other rates are unchanged.

Lumber charters are slow, \$2.50 has been refused from Duluth, \$2.75 was the last rate to Lake Erie. Shippers offer \$1.25 from Georgian Bay and \$2 on hard wood from Lake Michigan to Erie ports. Some vessels are still holding for \$3 from the head of the lakes, but shippers' own and chartered tonnage is doing the bulk of the carrying just at present. Taking the week all through, the business has not been in favor of the vessel owner, and it is now said that the Rockefeller line has a surplussage of three million tons under season charter, and therefore can rule the going rates.

LETTERS ADVERTISED AT MARINE P. O., DETROIT, MAY 16, 1900.

Brown, Thos.	Jennison, Chas. M.
Bennett, Albert, Rambo.	Jordan, J. H.
Barry, Wm., North Wind.	Johnston, James.
Christiansen, Carl, Case.	Kenbke, Frank, Cadillac.
Cooley, Frank E.	Lolett, Wm. H.
Cosullands, Geo.	Linton, E. W., Baldwin.
Connors, Frank, Bermuda.	Lalonde, Lew.
Dove, Andrew.	Mack, Burt, Orinoco.
Downey, Stephen, Columbia.	McCarron, Wm.
Ebret, John.	McConnell, John.
Farrley, Capt., Carrington.	McCormick, Capt. N.
Ford, A. J., Corliss.	McKay, James.
France, C. J.	Nicholson, John.
Gray, Charles W.	Reynolds, B. H.
Gill, Thos.	Sutton, John.
Graham, Alec., Bourke.	Stufflebeam, W. E.
Guindon, Mars.	Stenton, Wm., State of Mich.
Garven, Alfred.	Stewart, Dory, Orinoco.
Gordon, Frank W.	Thomson, H.
Galloway, Will, Iona.	Woods, John, Linden.
Hamling, Albert, Wawatam.	Walder, L., Crescent City.
Herrick, D. M.	Winters, G. H., H. H. Brown.
Hanson, W. P.	Wright, Samuel.
Hamilton, Reginald.	Wells, J. P., State of Penn.
Hintz, Arthur, R. Fulton.	Williy, L.
Haicher, Adolph, 3, Pueblo.	F. B. DICKERSON, P. M.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	1,868,000	825,000	1,044,000	75,000	446,000
Chicago	10,888,000	5,545,000	1,655,000	392,000	.....
Detroit	207,000	219,000	14,000	7,000	1,000
Duluth	12,459,000	1,285,000	367,000	166,000	64,000
Fort William, Ont.	3,258,000	.....	.....	.....	.....
Milwaukee	213,000	4,000	1,000	.....	2,000
Port Arthur, Ont.	206,000	.....	.....	.....	.....
Toledo	222,000	675,000	300,000	1,000	.....
Toronto	65,000	.....	10,000	.....	32,000
On Canals	515,000	69,000	305,000	50,000	69,000
On Lakes	1,751,000	674,000	517,000	33,000	.....
Grand Total	47,621,000	16,155,000	7,246,000	1,025,000	953,000
Corresponding Date, 1899	26,028,000	19,140,000	7,685,000	818,000	1,519,000
Increase .....	.....	.....	209,000	.....	.....
Decrease	2,204,000	1,982,000	.....	118,000	242,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

Under the rules of the recent river and harbor act, approved March 3, 1899, a sunken wreck which is a menace to navigation, should be removed. Section 19 of the act provides that when a channel shall be obstructed by a sunken vessel for longer than 30 days, or when such vessel shall be abandoned in less time than 30 days, the Secretary of War may remove it without liability to the owners. Section 20 provides that in emergency, when a sunken craft shall specially endanger or interfere with navigation, the Secretary of War, or his agents may take immediate steps for its removal or destruction, the expense to be charged upon the vessel and cargo.

INSPECTOR OF BOILERS, JUNE 19-20, 1900.

The United States Civil Service Commission announces that on June 19-20, 1900, examination will be held in any city in the United States where it has a local board of examiners, for the position of inspector of boilers, Steamboat Inspection Service.

The subjects and scope of this examination may be found in Section 125 of the Manual of Examinations revised to January 1, 1900. Age limits, 25 to 55 years.

From the eligibles resulting from this examination certification will be made to the position of inspector of boilers at Charleston, S. C., at a salary of \$1,500 per annum.

ASSISTANT INSPECTOR OF HULLS, JUNE 19-20, 1900.

From the eligibles resulting from this examination certification will be made to the position of assistant inspector of hulls, New Orleans, La., at a salary of \$1,800 per annum, and to a similar position at Baltimore, Md., at a salary of \$1,800 per annum.

This examination is open to all citizens of the United States who comply with the requirements. All such persons are invited to apply, and applicants will be examined and graded with strict impartiality and wholly without any consideration save their ability as shown by the grade attained by them in the examination. Under the rules only residents of the local inspection district in which the vacancy exists will be certified.

Persons who desire to compete should at once apply to the U. S. Civil Service Commission, Washington, D. C., for application form 1087, which be properly executed and promptly filed with the Commission.

May 15, 1900.

SOME AMERICAN LIES.

(Communicated.)

We find the following ludicrous specimens of American brag and exaggeration in a little book compiled by a Scotchman and published in Glasgow, entitled, "A Pennyworth of American Humor."

When some one was describing to a Yankee the extraordinary speed of the Flying Scotchman, the Yankee replied: "That ain't a circumstance to our Lightning Express, sir. Why, one day a passenger leaned out to give a good-bye kiss to his wife. At that moment the train started so mighty quick that the man found himself giving the kiss to a big black woman who happened to be standing on the platform at the next station. Yes sir." This was not only a choice illustration of good natured American brag, but of the preposterous and ludicrous exaggeration which was one of the earliest and remains one of the most characteristic forms of American humor.

They tell me, for example, of trees on the great Pacific Slope, so high that it takes two men and a boy to see to the top of one—the first man looking till he is tired, and the second beginning where the first man left off. They tell about a man so tall that he had to get up a ladder to shave himself; and of a negro so black that charcoal made a chalk-mark upon him.

They tell of a horse—an American horse, of course—that ran so fast around the circus ring that it could see its own tail about a yard ahead. They tell about American gunboats of draft so light that they can float wherever the ground is a little damp. They tell of an artist who painted a snow storm so naturally that his friend caught cold by sitting too near it with his hat off. They tell about a hair restorer of such wonderful strength that when somebody dipped the end of his penholder into it, it grew rapidly into a shaving brush. They tell about a storm that burst with such terrific fury upon one of their lake steamboats, that four powerful sailors were required to hold on the captain's whiskers. They tell of gas in some Western city so very poor, that the man who went round to put out the lights had to carry a lantern with him to find out where the lamp-posts were. They tell of an unguent of such remarkable efficacy that when a dog's tail was accidentally chopped off, and the unguent was applied, a fresh tail grew; and when some was next applied to the chopped-off tail, a new dog grew.

Yours truly,

HERMAN G. RUNGE.

NOTES.

THE Navy Department has issued a statement that in connection with the work it desires to do on the lakes it does not care to infringe on the rights of the army engineers' bureau, but simply to locate obstructions, and this can best be done by the Navy Department.

It is learned that the Falls Hollow Staybolt Co., Cuya, hoga Falls, O., is in receipt of numerous letters praising their product, and it is stated that a trial will convince any marine boiler maker of the great merit and economy of the hollow staybolts over the drilled bolts. The firm are pleased to say that they are regularly gaining patrons and customers of the best class owing to the convenience in the use of the hollow staybolts.

Two large steel steamers have been granted official numbers this week by the Bureau of Navigation, Treasury Department, Washington, D. C. The Charles R. Van Hise, 5,117 tons gross and 3,673 tons net, built at West Superior, Wis., and hailing from Marquette, Mich. Also the Isaac L. Ellwood, 5,085 tons gross and 4,431 tons net, built at West Bay City, Mich., and hailing from Duluth, Minn. Two small craft of 20 tons each were also given official numbers.

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LITERARY AND BOOK NOTICES.

The Chisholm & Moore Mfg. Co., Cleveland, O., sends out a most carefully prepared catalogue for 1900, showing the well known chain hoists, pneumatic motors, chain blocks, traveling cranes, rail joints, etc.

More than a year ago the United States Government sent an expert geologist to the Philippines to investigate the material resources of those islands. In the June Scribner's Mr. George F. Becker will give some of the most important results of his investigations in regard to the mineral, industrial, and agricultural wealth of the Philippines.

Statistics of the Trade and Commerce of Buffalo—Annual report of the Buffalo Merchant's Exchange, compiled by Chas. H. Keep, secretary. This annual is fully up to the standard of its predecessors, if not slightly in advance, and reflects the greatest credit on the energetic, well-informed and uniformly accurate statistical statements furnished by Mr. Keep.

A series of lectures by F. R. Low, which have been running in Power, have now been reprinted in pamphlet form. Mr. Low's clear method of demonstrating the principles of the compound engine, aided by the numerous diagrams in the 49 pages of text, will make this monograph a very instructive one for the steam engineer. It is published at 50 cents by the Power Publishing Co., World Building, New York.

We note in the advance sheets of the 1900 catalogue of the Gould's Mfg. Co., of Seneca Falls, N. Y., on pumping and well machinery, that there is a price list attached to the description of each article. We have before expressed our opinion of the desirability of such care, for, while the rates of discount are constantly changing, a person can, by taking this into consideration, figure on the cost of any installation or improvement very much better than is possible in an entire absence of such data. Beyond this the sheets give evidence of editorial care, which should result in a most useful catalogue of the complete line of pumping machinery and appliances with which it is expected to deal.

"The Work of a Careless Engineer" is the title to an interesting pocket-size booklet just issued by the Boyer Sectional Water Tube Boiler Co., 90 Water street, New York city. It describes a very strange accident to a Boyer boiler caused by carelessness on the part of the engineer, it is alleged. Three illustrations are given which show what the result was and in the text it is explained why there was not a very serious loss of life because of the type and construction of this boiler. There is also quite a description of boilers of this type recently installed on the steamer Clara and a detailed statement is given showing the great advantage to this steamer in changing from the old boilers to the new boilers of the Boyer sectional type.

"Small Engines and Boilers," by Egbert P. Watson. Published by D. Van Nostrand Co., New York. Price \$1.25. There is always something attractive about a little steam engine, and the ambitious young mechanic immediately wants something that can go. This book is written for just such cases and describes the building of small stationary engines having a practical value. With a small lathe and a work bench equipped with a vise, the engines described may be built by anyone having a taste for such matters. Parts are shown in detail, dimensions given, and in fact about all the instruction that can be given on paper is to be found

here. The illustrations are clear, the book is well printed and bound, and can be recommended to anyone desiring information of this kind.

We have received from the Bullock Electric Mfg. Co., Cincinnati, O., a pamphlet titled bulletin No. 36, illustrating and describing the marine lighting and power sets manufactured by this well and favorably known firm. The company very pertinently state that "the requirements of the marine service are difficult to fill. Weight, space and durability are all important factors in the successful machine. In the design of our marine sets we have sought to thoroughly and completely fulfill the requirements of marine architects and shipbuilders, and we confidently believe that the result of our efforts justifies the claim that for this service our product is unequaled."

The "Shipping World" Year Book for 1900, edited by Evan Rowland Jones, and published at The Shipping World office, Effingham House, Arundel street, Strand, London, W. C., deserves most of the encomiums that have been given to its predecessors. In addition to the features already familiar, it contains the complete new tariffs of several countries, the new Board of Trade medical scale for merchant ships, a list of vessels built and building for the navies of the world, and a summary of the work turned out by the world's shipyards last year. Other matter has been revised and, as far as possible, brought up to date. The "Year Book" is a desk manual in trade, commerce and navigation, and is a pattern of accuracy, variety, and conciseness.

Under the title of "Some Sea Specialties," a very handsome little book has been issued and copyrighted by Horace See, the well known naval architect, No. 1 Broadway, New York, giving full page half-tone engravings of many of the principal ships that are equipped with the famous See devices such as the ash ejector, grease extractor, cross hatch cover, controlling device for electric motors, pilot house electric recorder, running light control and indicator, See triple expansion engines, etc. The book is an ornament to an office as well as a reminder of such useful and valuable devices that cannot be overlooked in modern ship construction, and presents also the addresses and business cards of a number of select and reliable houses in similar shipping supply lines.

We are indebted to Thos. W. Harvey, M. D., Orange, N. J., for a biographical memoir of the late Hayward Augustus Harvey, written by his sons, with portraits and illustrations. Perhaps biographical sketch is rather too pretentious a statement to make, as all that is attempted in the monograph is to present a few of the most memorable facts of his life work in regular sequence. This little work of 100 pages will be found useful to the future historian of the wonderful progress in the arts and sciences which has made the last quarter of the Nineteenth Century memorable, whatever the future may have in store for the coming generation of men. Haywood A. Harvey was a striking example of the heredity of genius. His father, Gen. Thos. W. Harvey, was one of the most remarkable of men of the first half of the Nineteenth Century. He was a pioneer in mechanical inventions, and in the application of original devices in automatic machinery. Hence the inventive ingenuity of his son. At the end of the book is given a list of the war-ships built with the Harvey armor, wherein we find all maritime nations enumerated.

Andrew J. Morse & Son, Boston, Mass., improved diving apparatus and submarine armor, established 1837. This well known and long-established firm have just issued a large, well illustrated catalogue and price list, with supplement attached, and a separate pamphlet containing testimonials, many of which are from lake authorities, and all speaking in the highest terms of the equipment furnished by A. J. Morse & Son. The firm is the oldest house in the business of manufacturing diving apparatus in this country, and for many years have furnished the Navy and Corps of Engineers as well as the leading wrecking companies, divers and others with their submarine equipment. This thoroughly reliable house very briefly state that they make no competition with cheap work nor inferior manufacture of any description.

We are in receipt of an illustrated little volume which, while it partakes somewhat of trade literature in the interests of the Bethlehem Steel Co., is still a work of art, from a typographical standpoint, the book contains 105 pages with about fifty illustrations all in fine half tone work. We note that the Bethlehem Iron Co. was incorporated April 8th, 1857, under the laws of the State of Pennsylvania. Capital stock \$7,500,000. The Bethlehem Steel Co. was incorporated April 17, 1899, under the laws of the same State, leasing the plant and franchises of the Bethlehem Iron Co., for 999 years, from May 25 1899. Capital stock \$15,000,000. The pages of the book briefly illustrate and describe the successive steps in the manufacture of armor-plate, ordnance and forgings from the raw material to the finished product as practiced at the Bethlehem Works. The works of the company are situated on the south banks of the Lehigh river, at South Bethlehem, Pa., and cover an area of about 75 acres. They include blast furnaces, puddling mills, Bessemer steel converters, rolling mills, open hearth furnaces, steam hammer and hydraulic forge press shops, machine shops, tempering and treating departments, etc. Mines in the southeastern part of the Island of Cuba constitute one of the chief sources of supply of ore for the company's blast furnaces, the total output from these mines are over 3,500,000 tons, the ore going close to the surface and mined along in ledges.

Cassier's Magazine of illustrated engineering has the following articles in its May number:

The Oldest Association of Ironmasters. The Iron and Steel Institute of Sweden. With ten illustrations. By Benet H. Brough, Assoc. R. S. M.

America's Position in the Industrial World. The Reasons for America's Advancement. By Walter M. McFarland.

Typical Horizontal British Steam Engines. The Tendencies of Modern Design. With fourteen illustrations. By W. D. Wansbrough.

The Modern Boiler Shop. Present Practice in Boiler-Making. With twenty-three illustration. By Joseph Horner.

Electric Central Stations and Isolated Plants. Gas Engines for Central Station Economy. By A. D. Adams.

The Diminishing Natural Gas Supply in the United States. The Probable Effects of Exhaustion. With four illustrations. By George E. Walsh.

The Power in a Pound of Coal. By E. D. Meier. Electric Riveting Machinery. With four illustrations. By F. Von Kodolitsch.

Systematic Piece-Work Pricing. By D. Carnegie. Current Topics.—Hydraulic Power for Machine Tools—Refrigerating Apparatus for Warship Magazines—Automobile Racing. Illustrated—Economies from Steam Specialties—Machine Firing—The Growth of Monopolies—The Struggle of Monopolies Against Competition—A Workman's Protest Against Trades Union Coercion.

HISTORY OF THE GOODRICH LINE.

FRANKSVILLE, WIS., May 15, 1900.

To the Editor of The Marine Record:

I enclose herewith a clipping from the Evening Wisconsin concerning the Goodrich line, which, I am sure, will interest a number of your readers.

Yours truly,

HERMAN G. RUNGE.

Peter Johnston, an old-time resident and vessel owner of Manitowoc, who is well-known in Milwaukee and Chicago, has furnished to the Manitowoc Pilot the following history of the Goodrich line:

"My acquaintance with Capt. Albert E. Goodrich began in Milwaukee in the early '50s. At that time he was clerk on the Ward steamer Traveler, running between Milwaukee and New Buffalo. In 1855 he purchased from E. B. Ward the steamer Huron and commenced operating the Goodrich line between Milwaukee, Manitowoc and Two Rivers. He sailed her himself and was his own clerk. In the spring of 1857 he advised James A. Hodges and myself to come to Manitowoc and we did so. We acquired the north pier from K. K. Jones under the firm name of Johnston & Hodges. On the 4th of March, 1857, navigation opened by the arrival from Milwaukee of the Goodrich steamer Huron, Capt. Sanford Morgan. The same spring Capt. Goodrich bought from E. B. Ward the steamer Comet, and as soon as the Straits opened she came on the line. She was commanded by Capt. Fred. Pabst, with Greg. Hurson as clerk.

"As business increased each year, Capt. Goodrich extended the line to Chicago and either purchased or chartered from E. B. Ward other steamers, notably the Traveler, Arctic, Cleveland, Sam Ward, Forrester, Alpena, May Queen and Gazelle. The name of the line at that time was the Clement Steamboat Company—Capt. Stephen Clement, president; and A. E. Goodrich, manager and part owner. They also had boats running to Green Bay and all intermediate ports, viz: the steamer Arctic, propeller Ogontz, St. Joseph, Ottawa, Wabash Valley, Truesdel, Oconto and Depere, and the steamer Planet was on the Lake Superior route. About 1865 Capt. Clement retired, and the Goodrich Transportation Company was formed with Capt. T. C. Butlin as superintendent.

"About 1860 Capt. Goodrich built his first boats in Manitowoc. They were the propeller Union and the steamer Sunbeam. The latter was intended to be the side-screw propeller Victor, but proved a failure and was changed to the side-wheel steamer Sunbeam. He next built the steamer Northwest, a large boat for the Lake Superior trade. Then came in succession the side-wheelers Corona, Manitowoc, Orion, Sheboygan, Muskegon and Chicago, also the propellers Navarino, Menominee and City of Ludington. The Navarino was burned at her dock in Chicago in the great fire in 1871. Since the death of Capt. Goodrich in 1886, there have been built at Manitowoc by the present company the propellers Racine and Indiana and the City of Ludington and Menominee have been rebuilt and their names changed to the Georgia and Iowa. There are other fine boats on the line, but they were not built here.

"Disasters occur on sea as well as on land, and the Goodrich line had some in early years. Three of them were sad on account of the loss of life. On the 9th of April, 1868, the steamer Sea Bird was burned off Kenosha and Capt. John Morrison, Clerk James A. Hodges and about thirty-five citizens of Manitowoc and some from other towns were lost. About 1864 the steamer Sunbeam was lost in a storm on Lake Superior, and Capt. William Dougall, Clerk William Gardner, the crew and the passengers were all lost except one wheelman, a half-breed Indian, who floated ashore on the wheelhouse, but he could not tell how the boat was lost. On October 16, 1880, the steamer Alpena was lost on Lake Michigan in a severe southwest storm, and Capt. Nelson Napier, Clerk Arthur Haines, Steward Will Shepard and all

on board were lost. Other steamers were lost, but no lives were lost on them. The Orion was wrecked at Grand Haven, the May Queen was burned at Milwaukee and the Navarino at Chicago.

NOTICE TO MARINERS.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., May 10, 1900.

GRASSY ISLAND SOUTH CHANNEL RANGE REAR LIGHT STATION.—Notice is hereby given that the square, white tower from which the light (fixed white varied by a white flash every minute) is shown at this station, at the elbow of Grassy Island Shoal, Detroit river, about 7 miles below Detroit, will be at once increased in height 10 feet. The work will be commenced as soon as practicable.

The focal plane of the light will then be 51½ feet above mean lake level, instead of 41½ feet as at present.

The exhibition of the light will not be interrupted.

MAMAJUDA RANGE REAR LIGHT STATION.—Notice is hereby given that the tower from which the fourth-order fixed red light is shown at this station, on Mamajuda Shoal, Detroit river, about 5½ miles above Limekiln Crossing, will be at once rebuilt, the new tower to be round instead of square, and its height to be increased 12 feet.

The focal plane of the light will then be 50¼ feet above mean lake level, instead of 38¼ feet as at present.

While the work of rebuilding the tower is in progress a fixed red lens-lantern light will be shown, instead of the fourth-order light, the effect of the latter change will be a temporary decrease in the intensity of the light.

FRANCIS J. HIGGINSON,
Rear-Admiral, U. S. Navy, Chairman

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 11TH DISTRICT,
DETROIT, MICH., May 9, 1900.

The bell buoy which should be moored off the north end of a shoal off Pointe Abbaye, north coast of Michigan, has been carried away and not yet found, so that the north end of this shoal is not marked.

This buoy will be replaced as soon as possible.

Superior Front Channel in Superior-Duluth Harbor, Minn. and Wis., has been dredged to a minimum depth of 20 feet and is 300 feet wide at the narrowest place and now extends from Superior harbor basin to the East Gate basin.

This channel between Quebec channel and the west end of Superior Bay channel is now being marked by lights and buoys, and as soon as completed the usual notice to mariners will be issued.

Information has been received that the structures of post lights Nos. 3, 9 and 12, Portage river range 3 to 15, have been carried away by the ice and no lights can be exhibited from them.

The structures will be rebuilt and the lights exhibited as soon as practicable.

J. C. WILSON,
Commander, U. S. Navy,
Inspector 11th Light-House District.

DOMINION OF CANADA—ONTARIO.

DEPARTMENT OF MARINE AND FISHERIES,
OTTAWA, CANADA, 27th April, 1900.

SEGUIN BANK BUOY.—The gas buoy on Seguin bank was dismantled by ice last autumn and is not ready for placing on the opening of navigation this year. Until it can be put in order, its place will be taken by a large spar buoy painted black. It is hoped that the gas buoy will be on its station within two weeks from date.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Interest on Valuation.—The allowance of interest in admiralty cases is discretionary, and not reviewable on appeal by the Supreme Court of the United States, except in a very clear case. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Rules of Navigation.—The navigation of the Mississippi below New Orleans was subject in January, 1897, to the original rules and regulations of the act of Congress of 1864, reproduced in U. S. Rev. Stat. § 4233. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Evidence of Value.—The fact that the owner of a vessel had at the time of a collision concluded a sale of one-half the vessel for a certain sum is better evidence of her actual value than the conflicting opinions of experts. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Faulty Construction of Vessels.—A vessel cannot be excused from stopping and reversing when required by the rules of navigation, merely because her own construction is so faulty that she cannot stop in time to prevent collision. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Not Entitled to Lien.—A tug, contracting with the owners of a dredging plant, consisting of a dredge and scows, to render general towing services, in connection with the dredging operations, for a stipulated sum monthly, is not entitled to a lien therefor on the dredge. The Saratoga et al., 100 Fed. Rep. (U. S.) 480.

Damages on Account of Loss of Life of Passengers.—Valid claims may be asserted under a limited-liability act for damages on account of the loss of life of passengers in a collision, although there may be no lien or privilege upon the vessel given therefor by local law. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Tug Not Entitled to Lien on Dredge.—A tug is entitled to a lien upon a dredge for casual towing services, rendered on request of those operating the dredge, in removing loaded scows to the dumping grounds at different times, when such services could not be performed by the tugs in regular attendance. The Saratoga et al., 100 Fed. Rep. (U. S.) 480.

Measure of Damages.—Where a vessel was sunk in a collision in a safe harbor, and near her home port, where facilities for raising and repairing her were readily obtainable, the necessary cost of raising and repair, and demurrage for the time lost, is all that will be allowed as damages, when less than her value. The Ernest A. Hamill, 100 Fed. Rep. (U. S.) 509.

Lien for Loss of Life.—A lien or privilege upon a vessel for the loss of life of a passenger is not created by La. Civ. Code, art. 3237, subd. 12, providing a privilege for loss or damage caused to person or property by negligent management of the vessel, as this was not intended to apply to actions for damages resulting in death. The Albert Dumois, 20 Sup. Ct. Rep. (U. S.) 595.

Seamen—Suit for Wages—Release.—Seamen who, after joining in a libel for damages, settle their claims, and execute a release, on receiving a small payment and a cancellation of their indebtedness to the ship for advances and merchandize, without fraud or duress, cannot impeach the consideration for such release, and the suit as to them will be dismissed. The Belvedere, 100 Fed. Rep. (U. S.) 498.

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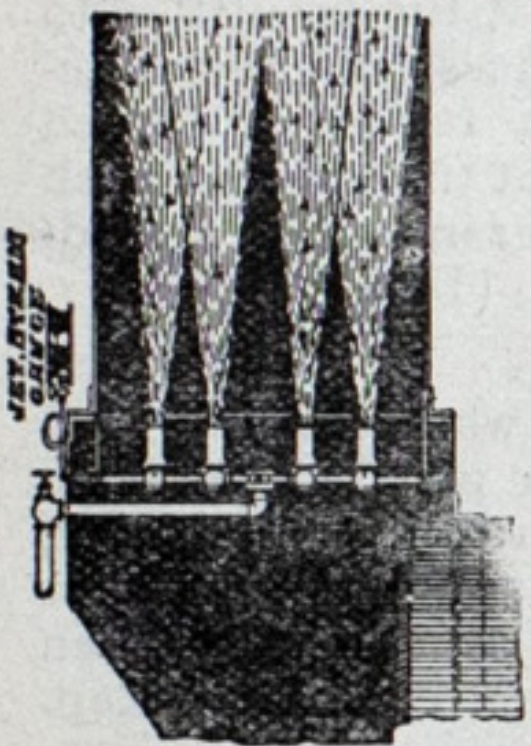
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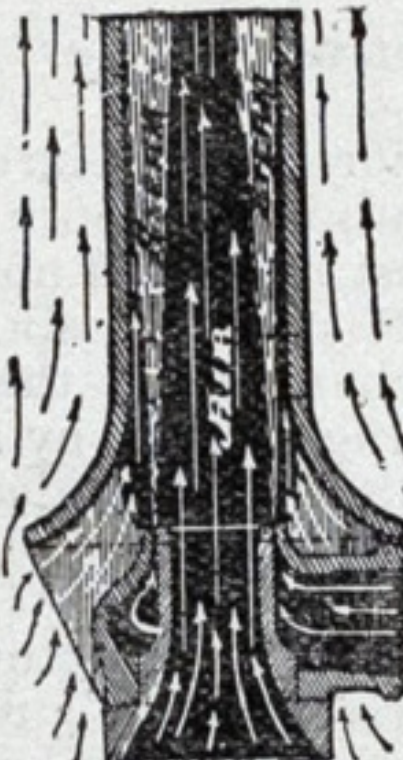
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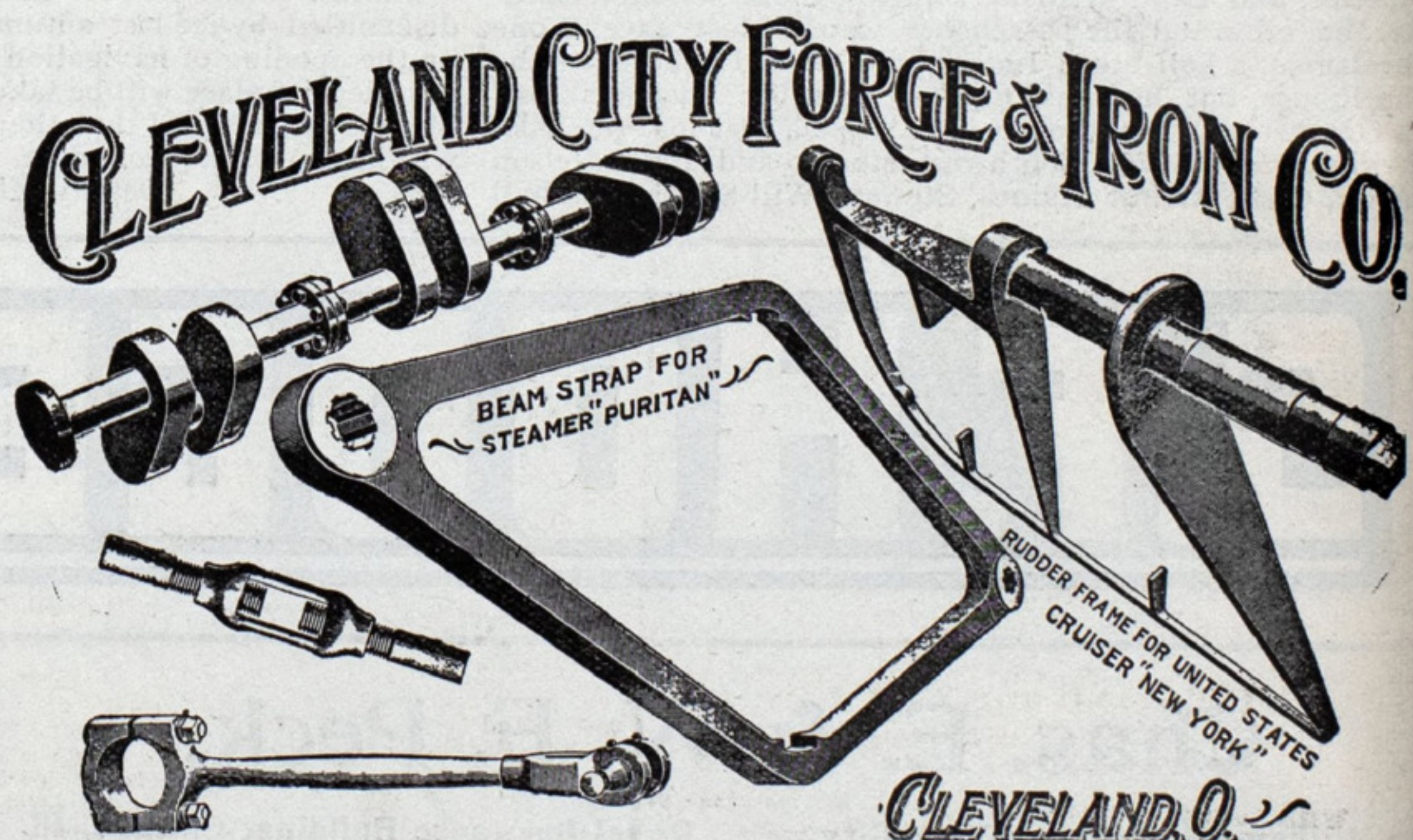
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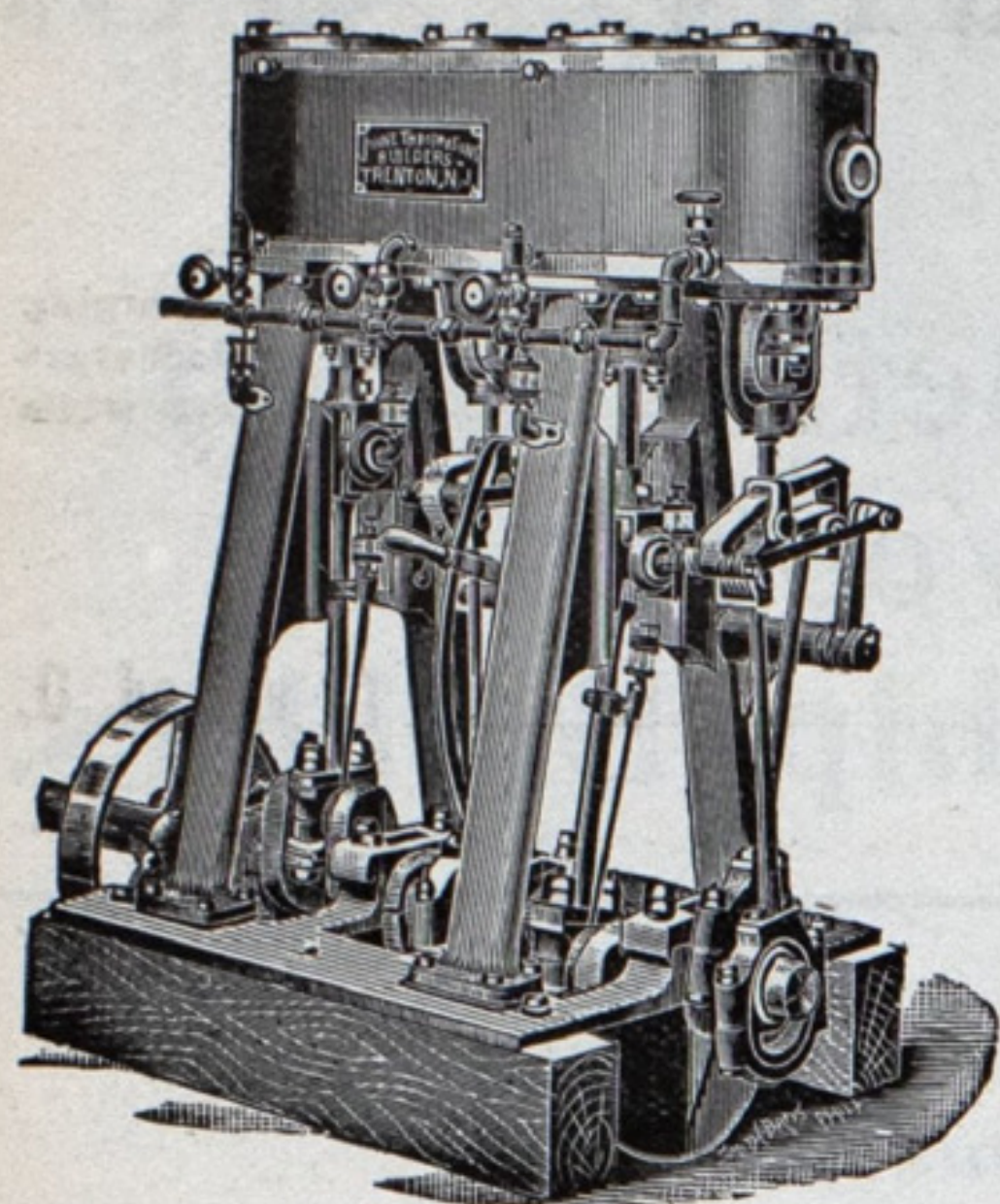
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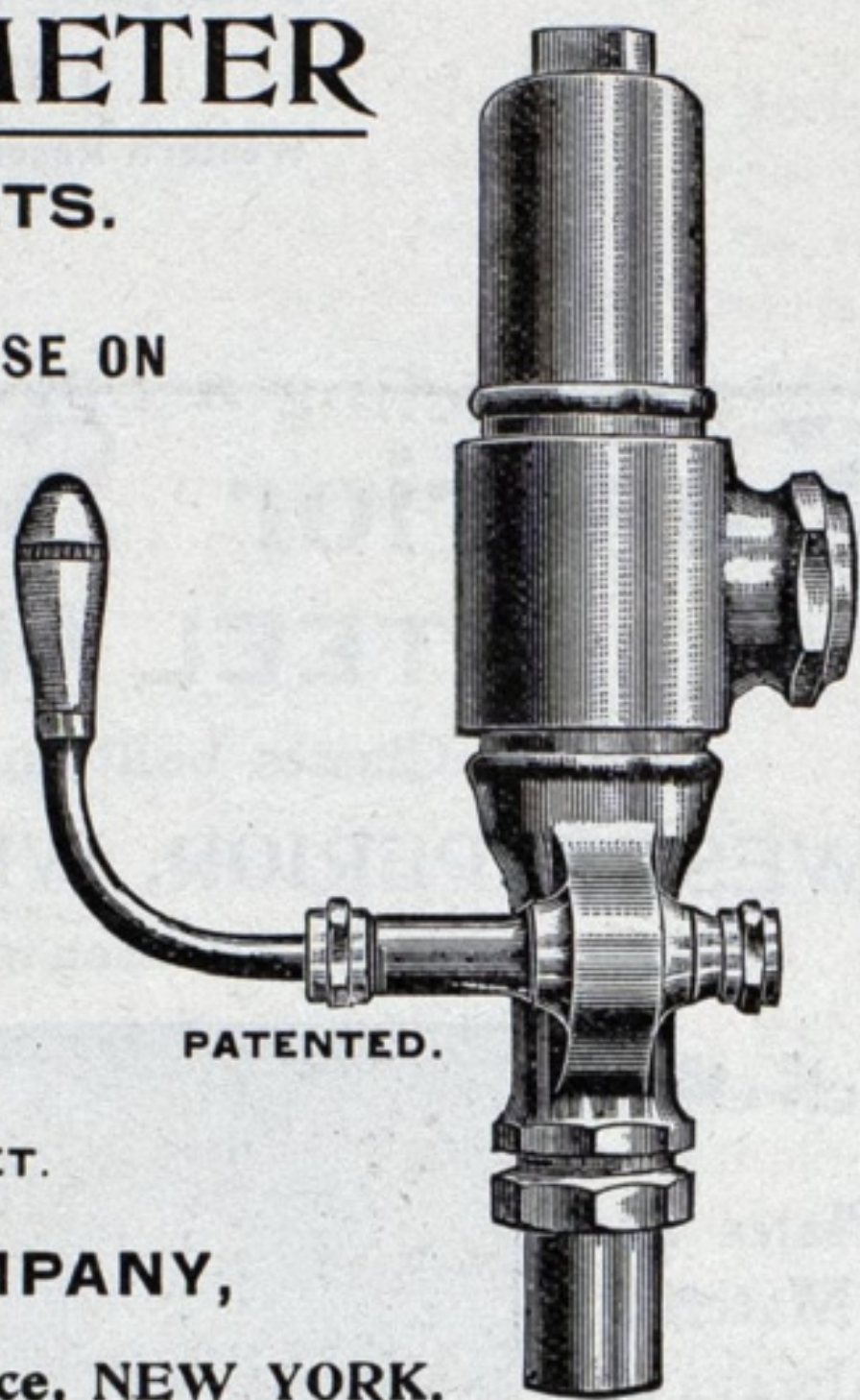
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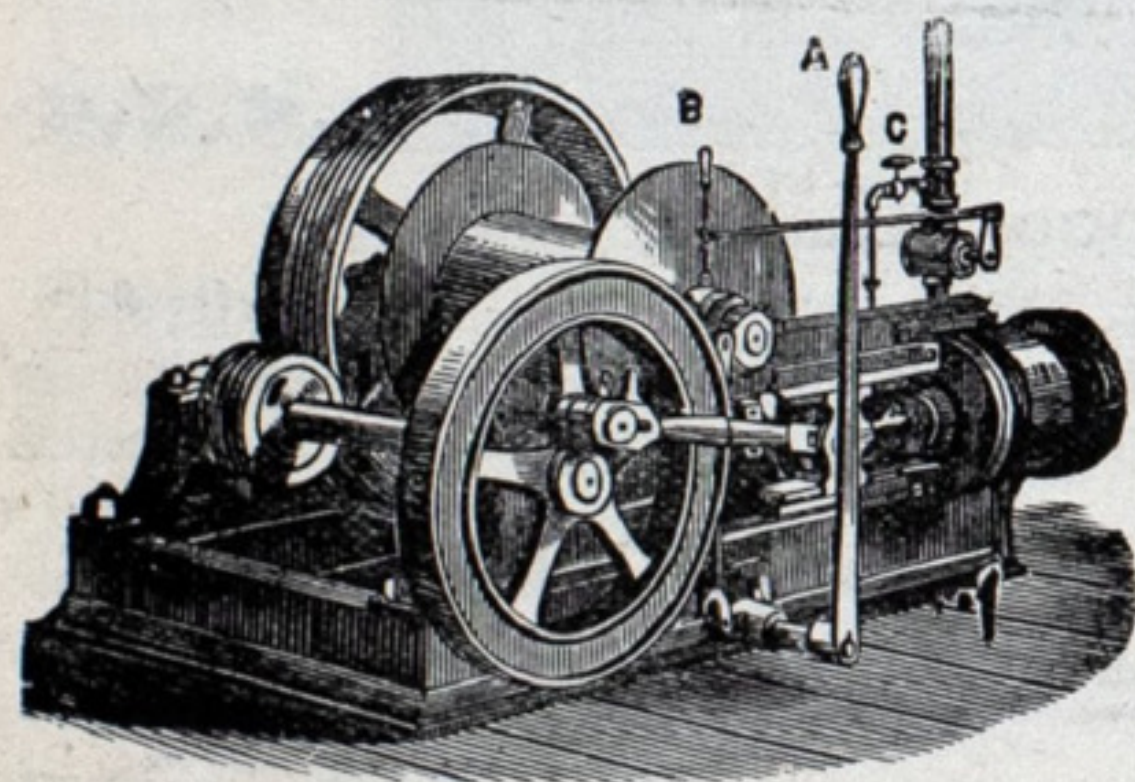
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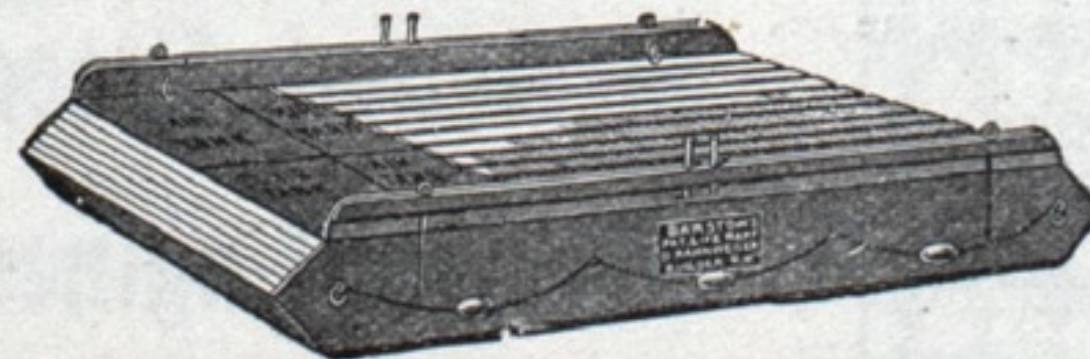
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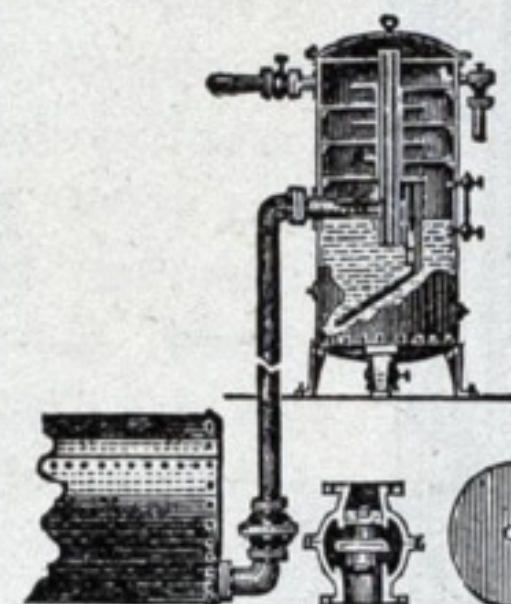
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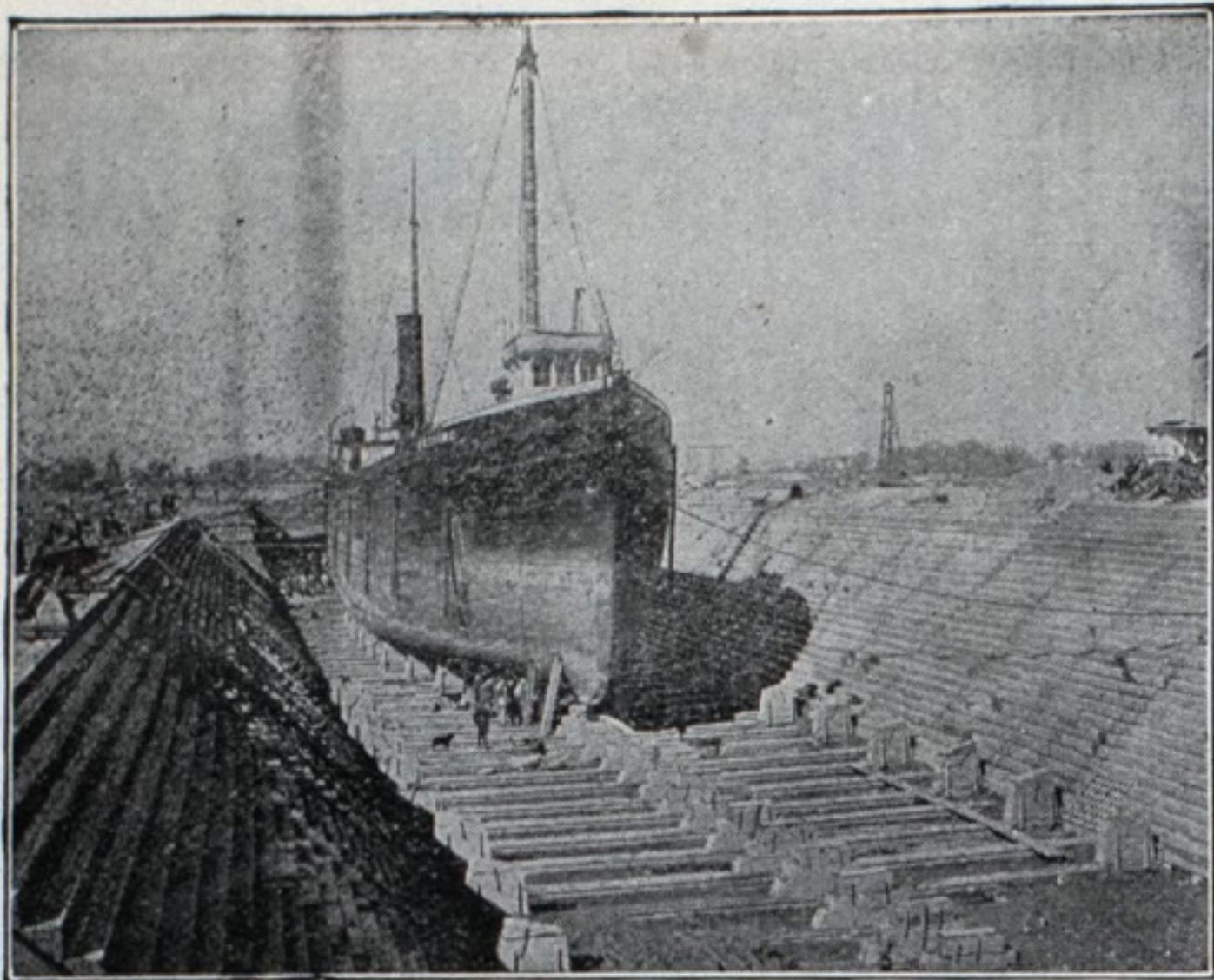
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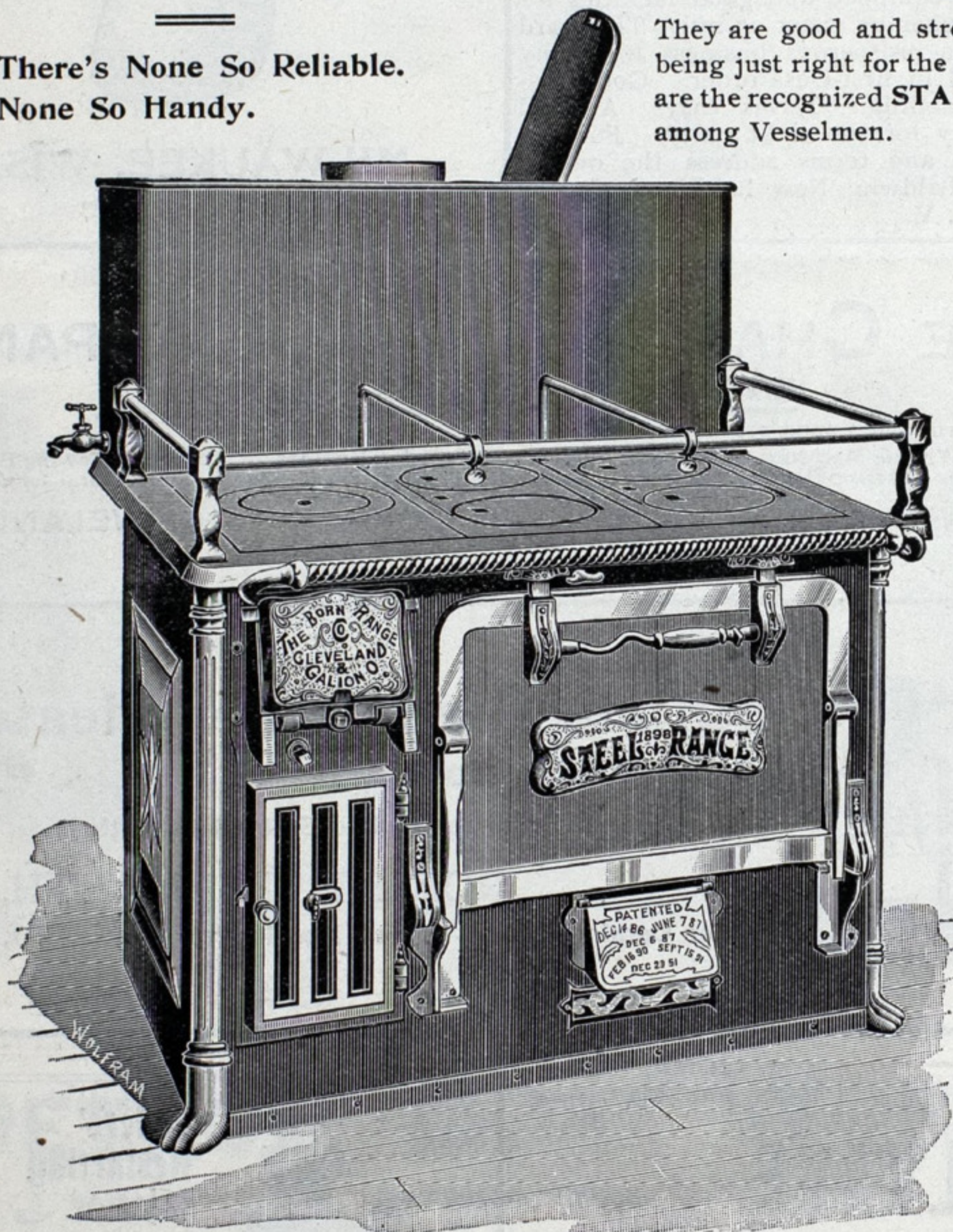
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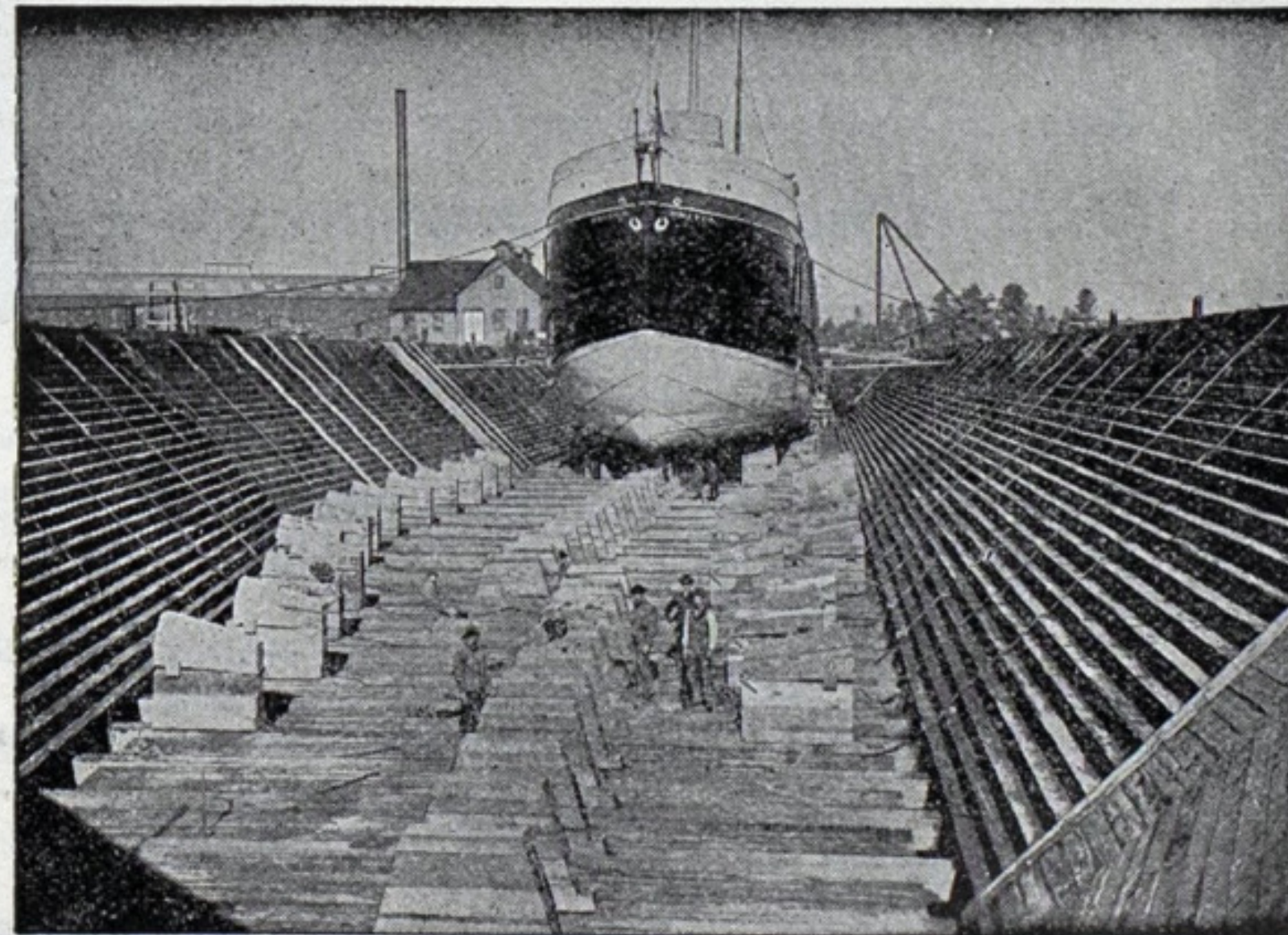
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